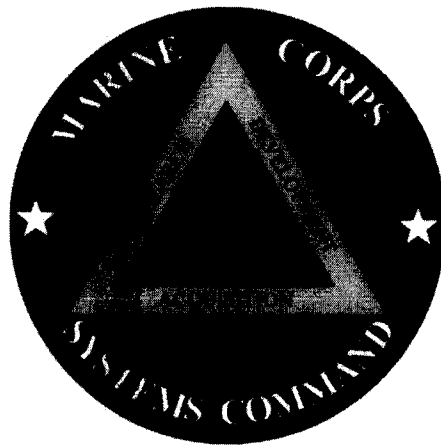


MARINE CORPS SYSTEMS COMMAND



C4I

**ENTERPRISE INTEGRATED PRODUCT
(EIP)**

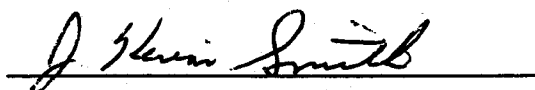
**CONFIGURATION MANAGEMENT PLAN
(MARCORSYSCOM C4I ECMP)**

23 December 2002

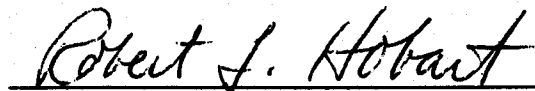
**Marine Corps Systems Command
C4I Enterprise Integrated Product (EIP)
Configuration Management Plan
(MARCORSYSCOM C4I ECMP)**

EIP-ECMP-02-Ver1

23 December 2002

A handwritten signature in cursive script, reading "J. Kevin Smith", written over a horizontal line.

**Mr. J. Kevin Smith
Director, SE&I Division
C4I Integration
Marine Corps Systems Command**

A handwritten signature in cursive script, reading "Robert L. Hobart", written over a horizontal line.

**Mr. Robert L. Hobart
Deputy Commander, C4I Integration
Marine Corps Systems Command**

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**MARCORSYSCOM
C4I ENTERPRISE INTEGRATED PRODUCT (EIP)
CONFIGURATION MANAGEMENT PLAN
(ECMP)**

EXECUTIVE SUMMARY

This document is the first in a series of plans, which are to be developed in order to implement command-level oversight of interoperability among the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems under the cognizance of the Commanding General, Marine Corps Systems Command (MARCORSYSCOM). This document discusses the manner in which the Deputy Commander, C4I Integration (C4I/I), shall identify interoperability requirements to the programs, how changes to these specified interfaces shall be managed, and identifies the fact that MARCORSYSCOM systems shall undergo configuration verification during an evaluation process outside of the usual requirements for acquisition test and evaluation.

A fundamental assumption of Enterprise-level configuration control is that every program shall be managed by a product team which is capable of performing configuration management of its own product, while program managers (PMs) and product group directors (PGDs) provide coordination among their programs and control over program execution.

This plan is being written at a time when the original governing documents, DODI 5000.2 and DoD 5000.2-R have been canceled but no replacement documentation has been approved. Therefore within this plan, the assumption is made that the C4ISP shall remain a useful tool after new instructions are completed.

Multiple interoperability and integration issues remain to be addressed in order to adjust integration and interoperability management practices to reflect the reorganization of MARCORSYSCOM into a product group construct. These shall be addressed, resolved, and published in future plans. Upon completion of resolution of these issues, the several plans may be collected into a single Systems Engineering Management Plan for the command. Examples of issues that shall become the topics of future plans are:

- The manner in which MARCORSYSCOM shall coordinate Marine Corps wide technical positions on interoperability issues under the cognizance of the Military Communications-Electronics Board.
- The manner in which systems engineering issues affecting two or more product groups shall be resolved.
- The manner in which the fielding of related products shall be managed and coordinated across the command.
- Development and acceptance of a single future-vision architecture that will drive the future development of existing programs.

- Development and control of the Marine Corps enterprise architecture at the levels of detail necessary to support detailed planning, development, testing, and evaluation.

SECTION 1

INTRODUCTION

1.1 PURPOSE

This document describes the requirements and procedures for Configuration Management (CM) of the interfaces and interoperability of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems under the cognizance of Marine Corps Systems Command (MARCORSYSCOM). This document replaces MARCORSYSCOM C4ISR CMP Revision A, published on 13 November 1996, and supercedes MARCORSYSCOM Policy Letter 11-02 (reference (a)).

1.2 SCOPE

This plan is applicable to all Information Technology Systems (ITS) and National Security Systems (NSS) or services acquired, procured, or operated by the Marine Corps as required by DOD Directive 4630.5 (reference (b)). As such, it specifically relates to the control of system designs within and among the suites of C4ISR equipment assigned to all Marine Air-Ground Task Forces (MAGTF) operating forces and Marine Corps supporting establishment systems, under the research and development, acquisition, fielding, and life-cycle management of MARCORSYSCOM.

1.2.1 MARCORSYSCOM Enterprise Integrated Product (EIP)

The product to be brought under configuration management is the full suite of C4ISR systems that are provided to the operating forces and supporting establishment. This federation of systems (FOS) is called the Enterprise Integrated Product (EIP). A more detailed definition of the EIP is provided in the MARCORSYSCOM C4I Enterprise Integrated Product Systems Engineering Management Plan (C4I EIP SEMP), Section 1 (reference (c)). The C4I Enterprise Integrated Product (EIP) Configuration Management Plan (ECMP) covers procedures for configuration control of the technical aspects of the EIP: interface design and specifications, system technical design and specifications, and configuration verification and audit. Non-technical aspects of the management of the EIP are covered under "Target Board Procedures" in the C4I EIP SEMP (reference (c)). Appendix C lists the programs that are included in the EIP, grouped by functional area.

1.3 OVERVIEW

1.3.1 Overview of the Enterprise CM strategy

This Enterprise Integrated Product (EIP) Configuration Management Plan (ECMP) addresses a strategy for identifying, planning and verifying the configurations, interfaces and interoperability of the FOS that MARCORSYSCOM provides to the operating forces and supporting establishment. The principal organization for Enterprise-level CM is the Enterprise Configuration Control Board (ECCB). The ECCB is a capstone organization, intended to resolve configuration issues which cannot be resolved at lower levels and to review the impacts of system configuration changes on the EIP from configuration changes originating at all echelons. It provides for configuration management by the Integrated Product Teams (IPTs) of each separate system, combined with oversight of the interoperability and configuration control of each system by the Deputy Commander for C4I Integration (DEP CDR C4I/I). The Enterprise

Configuration Control Board advises the DEP CDR C4I/I on the impacts of engineering changes to systems within the EIP and the DEP CDR C4I/I acts as the final decision authority. A reclama process is provided to program managers through their Milestone Decision Authority. The relationship of the ECCB to program-level CCBs is depicted in Figure1-1.

MARCORSYSCOM CCB Hierarchy		
BOARD	CHAired BY	RESPONSIBILITY
Enterprise CCB	DEP CDR C4I/I	<ul style="list-style-type: none">• Approve Enterprise-Level ECPs• Review Class I ECPs for Impact
Program CCB	PGD or PM	<ul style="list-style-type: none">• Approve Class I ECPs Not Affecting the Enterprise, Forward to ECCB for Review• Review Class I ECPs Affecting the Enterprise
Developer CCB	Developer PM	<ul style="list-style-type: none">• Approve Class II ECPs• Review Class I ECPs
Supplier CCB	Supplier PM	<ul style="list-style-type: none">• Approve Class II ECPs• Review Class I ECPs

Figure 1-1. Hierarchy of MARCORSYSCOM Configuration Control Boards

1.3.2 Implementation

This plan becomes effective upon signature by the Deputy Commander C4I/I and shall be reviewed annually and updated as necessary.

1.4 ORGANIZATIONAL RELATIONSHIPS

1.4.1 Deputy Commander for C4I Integration (DEP CDR C4I/I)

The DEP CDR C4I/I is responsible to the Commanding General for the integration and interoperability of C4I systems produced by MARCORSYSCOM. To assist him in these responsibilities, he has established the Marine Corps Systems Command C4I Enterprise Configuration Control Board.

1.4.2 MARCORSYSCOM C4I Enterprise Configuration Control Board (ECCB)

The purpose of the ECCB is to advise the DEP CDR C4I/I on the impacts of changes to approved interfaces and system designs within the EIP MARCORSYSCOM C4I systems. The members of the ECCB are the DEP CDR C4I/I, the Directors from each MARCORSYSCOM product group, the Commanding Officer, Marine Corps Tactical Systems Support Agency (CO MCTSSA); Program Managers (PMs) from program offices not assigned to product groups, the PMs from acquisition category I and II programs supported by the Commanding General MARCORSYSCOM, and the Director, Systems Engineering and Integration as standing members. The chairman may request the participation of representatives from other Marine Corps organizations for matters affecting their responsibilities or operations. The DEP CDR C4I/I chairs the ECCB and retains final decision authority. Director SE&I provides the secretariat to the ECCB. The chairman of the ECCB may invite members from external agencies to participate in the ECCB when necessary to obtain their input on particular issues.

1.4.3 Enterprise Interoperability Working Group (EIWG)

The Enterprise Interoperability Working Group (EIWG) is chartered by the DEP CDR C4I/I and is the technical execution agency for the ECCB. It operates under the management of the Director SE&I. There shall be four standing working groups operating under the EIWG: the Hardware Working Group, the Software Working Group, the Intelligence Broadcast System Working Group, and the Joint Tactical Radio System Working Group. The duties and responsibilities of the EIWG and its assigned standing working groups shall be defined in the EIWG charter.

1.5 SUPPORTING TOOLS

MARCORSYSCOM employs the following tools to manage information for the Enterprise CM process.

1.5.1 MAGTF System/Technical Architecture and Repository (MSTAR)

MSTAR provides the source data for preparing all architectural views produced by MARCORSYSCOM. The database contains detailed, specific information on command node functions, required operational interfaces and information exchange requirements, and C4ISR systems used to support information exchange requirements. When completely populated, MSTAR shall incorporate the information from the MAGTF Interoperability Requirements Concept (MIRC), the Technical Interface Design Plan (TIDP), and the Marine Corps Tactical Communications Architecture (MCTCA) and shall replace these documents.

1.5.2 Marine Corps Integrated Architecture Picture (MCIAP)

The MCIAP provides a high-level view of the interoperability requirements of MARCORSYSCOM C4ISR systems. It combines in one depiction an Operational View 1 (OV-1) and System View 1 (SV-1) for Marine Corps organizations. This depiction provides decision-making support and a high-level view to assist PMs and Teams to understand the interface requirements for their systems. The DEP CDR C4I/I produces the MCIAP based on data available in the MSTAR database.

1.5.3 C4I Support Plan (C4ISP)

The C4ISP is required for every ITS and NSS by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01B (reference (d)). The DEP CDR C4I/I uses the C4ISP as a tool to specify detailed interface requirements to program managers and to manage the execution of interface development for every C4I program within MARCORSYSCOM. The DEP CDR C4I/I is the approval authority for C4ISPs at Acquisition Category (ACAT) levels III and IV, and for Abbreviated Acquisition Programs (AAPs) within MARCORSYSCOM. He also reviews and recommends approval for C4ISPs for ACAT I, IA and II systems to their respective Milestone Decision Authority (MDA).

Once the C4ISP for a system is approved by the DEP CDR C4I/I, the interfaces described in the system views of the C4ISP become configuration items to be managed within the scope of this ECMP. Appendix D of this plan contains procedures for preparation, approval, and modification of the C4ISP, including information on how Marine Corps ACAT I, IA, and II programs develop C4ISPs, and how they coordinate their effort with MARCORSYSCOM and procedures to follow in reviewing C4ISPs developed outside of MARCORSYSCOM. The requirement for a C4ISP may be waived in some circumstances, described in Appendix D, Attachment D-2. In this case,

each program shall be required to submit the minimum set of architectural views for approval by the DEP CDR C4I/I. Once approved, this minimum set stands in lieu of the C4ISP for the program until its next system upgrade.

1.5.4 Architectural Views

Architectures provide a means to understand and manage complexity. Architecture views are representations of defined domains in terms of the system component parts, what those parts do, how those parts relate to each other, and the rules and constraints under which the parts function. See the C4ISR Architecture Framework (reference (e)) for a more complete discussion of architectures and architecture views. DEP CDR C4I/I uses system and technical views to define the integration, interoperability, and standards requirements for each of the EIP programs. The specific set of views is tailored to the complexity of the system and is included in the C4ISP for each system. The minimum set of views for every EIP program is the Systems Communications Description (SV-2) and System Information Exchange Matrix (SV-6). In addition, the Technical Architecture Profile (TV-1) is required for programs that are under development. The DEP CDR C4I/I shall identify additional views for inclusion in the C4ISP when necessary to describe more fully the interface, integration, and requirements of a system. The number of required views shall increase as a program proceeds through the development phase.

1.5.5 Program System Engineering Documentation

This documentation (Interoperability Key Performance Parameters, System Design Reviews, Test and Evaluation Master Plans, Detailed System Test/Integration Plans, Test Reports, Interoperability Certifications, etc.) shall be subject to review by the DIR SE&I in order to ensure compliance with EIP interoperability, integration, and standards goals.

1.5.6 Enterprise Integrated Product (EIP) Assessments

The DEP CDR C4I/I shall conduct periodic assessments of the interfaces in the full suite of EIP programs provided to the operating forces. These assessments serve to validate the interface definitions contained in the SV-6s of the participating systems, to confirm that the approved interfaces are operationally suitable, and to document which versions of the participating systems meet the approved interface, integration and standards configurations. The procedures for conducting EIP assessments and other uses for them shall be described in Appendix E.

SECTION 2

RESPONSIBILITIES

Several individuals and groups have responsibilities for the various pieces of the Enterprise CM processes. Their roles are described in the following paragraphs.

2.1 Deputy Commander, C4I Integration (DEP CDR C4I/I)

The DEP CDR C4I/I is responsible for oversight and control of CM within the EIP. In addition, DEP CDR C4I/I specifically:

- a. Chairs the ECCB.
- b. Acts as the final decision authority for resolution of configuration issues that cannot be resolved at lower levels.
- c. Acts as the approval authority for C4ISPs of MARCORSYSCOM AAPs, ACAT III and IV programs, any subsequent changes to approved C4ISPs, and any requests for waivers or delays.
- d. Designates the systems required to have aggregate interoperability assessments performed by MCTSSA within a particular Enterprise Integrated Package (EIP).

2.2 Product Group Directors (PGDs)

PGDs are responsible for:

- a. Being an ECCB member.
- b. Oversight of program-level CM for systems within their product groups.
- c. Identification of interoperability issues between systems in different product groups.
- d. Ensuring that their program-level CM processes follow best practices as identified in DOD Directive 4630.5 (reference (b)).
- e. Assigning appropriate permanent and issue-specific members to the EIWG and its working groups.

2.3 Program Managers (PMs)

PMs are responsible for:

- a. Being an ECCB member if the PM is not assigned to a product group or is a PM from ACAT I and II programs supported by the Commanding General MARCORSYSCOM.
- b. Oversight of program CCBs for systems under their cognizance.

2.4 PGDs/PMs

The PGDs and PMs are collectively responsible for:

- a. Participating with SE&I Division in screening the Command Automated Program/Information System (CAPS) to determine a need for C4ISPs.
- b. Developing and updating program documentation for programs under their cognizance.

- c. Submitting requests for waivers or delays on program documentation, when occurring, for programs under their cognizance.
- d. Distributing the revised program documentation to appropriate PMs and Agencies.
- e. Submitting system engineering change proposals (ECPs) in a timely manner to reflect changes to system baselines, specifications, or interfaces.
- f. Presenting Enterprise ECPs (EECPs) to the ECCB for approval.
- g. Updating product configuration description documents following approval of EECPs.

2.5 Director, SE&I Division (DIR SE&I)

The Director, Systems Engineering and Integration Division supports the Enterprise CM process by:

- a. Being an ECCB member.
- b. Maintaining the MSTAR database and a library of all approved C4ISPs and other system engineering documentation.
- c. Displaying Enterprise information in a series of MCIAP integrated views.
- d. Providing the secretariat to the ECCB.
- e. Performing initial analyses of ECPs for their impact on the EIP; generating EECP proposals for the ECCB.
- f. Assisting PMs to prepare C4ISPs for DEP CDR C4I/I approval.
- g. Providing the chairman for the EIWG.
- h. Screening programs listed in CAPS, to determine whether they are candidates for inclusion in the EIP.
- i. Providing technical support and training to PMs in the completion of system engineering documentation under their cognizance.
- j. Maintaining templates for system engineering documentation for use by program system engineers.
- k. Submitting approved and revised C4ISPs to higher headquarters.
- l. Maintaining the master list of approved and assessed system interfaces.
- m. Maintaining the master list of system versions and the system interfaces that each system supports.

2.6 Commanding Officer, Marine Corps Tactical Systems Support Activity (CO MCTSSA)

The CO MCTSSA supports the Enterprise CM process by:

- a. Being an ECCB member.
- b. Conducting EIP assessments of systems designated by the DEP CDR C4I/I.
- c. Identifying the versions of EIP programs that successfully meet the interface, integration, and standards requirements identified in their C4ISPs.

- d. Documenting, to the extent feasible, any information exchange requirements that a system cannot successfully meet.

EIP CMP
23 DEC 2002

SECTION 3

THE C4I ENTERPRISE CONFIGURATION MANAGEMENT PROCESS

This chapter covers Configuration Management (CM) planning, configuration identification, and configuration control.

3.1 Configuration Management Planning

This section describes the MARCORSYSCOM process for managing the configuration of the EIP. Figure 3-1 depicts an overview of the MARCORSYSCOM C4I Enterprise-Level Configuration Management process.

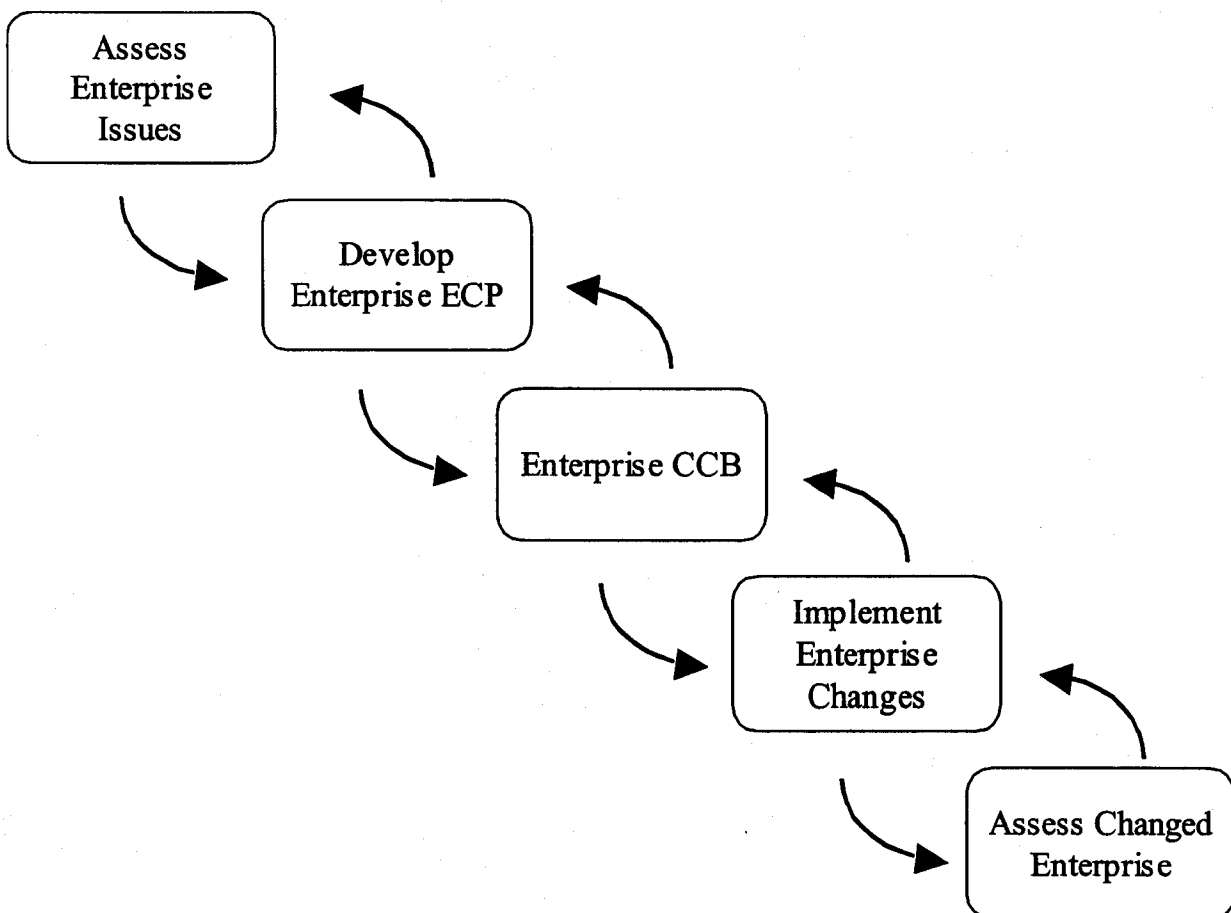


Figure 3-1. Enterprise Configuration Management Process

3.1.1 Assess Enterprise Issues

Enterprise issues are defined as any system technical change that affects two or more systems within the EIP. These issues may originate from a wide variety of sources, such as system design changes during development, feedback from the operating forces, changes to joint standards, system test results, emerging technology, or changes to policies within the supporting

disciplines (training, logistics, etc.). The procedures for addressing enterprise issues vary, depending on the source of the issue.

- a. Program managers shall prepare Engineering Change Proposals (ECPs) for technical changes to systems that are under development.
- b. Issues from other sources and non-technical system engineering issues shall be reported by the fastest means possible after being identified.
- c. ECPs and reports of other systems engineering issues shall be delivered to the DIR SE&I for evaluation of the impact on the EIP.

3.1.2 Develop Enterprise Engineering Change Proposals

The Assessments Section of the SE&I Division shall conduct an initial evaluation to confirm the impacts on the EIP. Once this initial evaluation is complete, the Assessment Section shall prepare an Enterprise Engineering Change Proposal (EECP) for technical issues or a Target Origination Request (TORs) for non-technical items. The EECPs are then scheduled on the ECCB agenda and the TORs are scheduled on the Target Board agenda. Target Board procedures are defined in the SEMP (reference (c)). The DIR SE&I shall prepare an initial recommendation of disposition of EECPs and TORs.

3.1.3 Enterprise Configuration Control Board Review

EECPs shall be briefed to the ECCB, which may choose to approve the recommendation from the DIR SE&I or refer the issue to the EIWG for additional development. If referred to the EIWG, the EIWG Chairman shall conduct a more thorough investigation of the issue by assigning it to one of the standing IPTs or by organizing an IPT for the special purpose of investigating the issue. The EIWG Chairman shall continue to report the progress of the IPT at ECCB meetings until the IPT has prepared a recommendation. Once a recommended course of action is available, the IPT lead shall brief the ECCB, which shall review the findings of the IPT and approve or decline the recommendations of the IPT.

3.1.4 Implement Enterprise Changes

Once a course of action has been approved by the ECCB, PMs shall incorporate recommendations into the various planning documents for the affected programs, using normal programmatic processes.

3.1.5 Assess Modified Enterprise Integrated Product

The DEP CDR C4/I shall conduct assessments of the EIP on an annual basis. Appendix E contains the procedures for EIP assessments.

3.2 Configuration Identification

3.2.1 Work Breakdown Structure (WBS)

The EIP work breakdown structure shall include all activities associated with the research, develop, acquisition, fielding, life-cycle support, and retirement of all systems within the EIP. The ECMP focuses on the top three levels of the EIP WBS. Program-level Configuration Control Boards (PCCBs) focus on CM starting at EIP WBS Level 3 and below. Figure 3-2 depicts the top three levels of the EIP WBS.

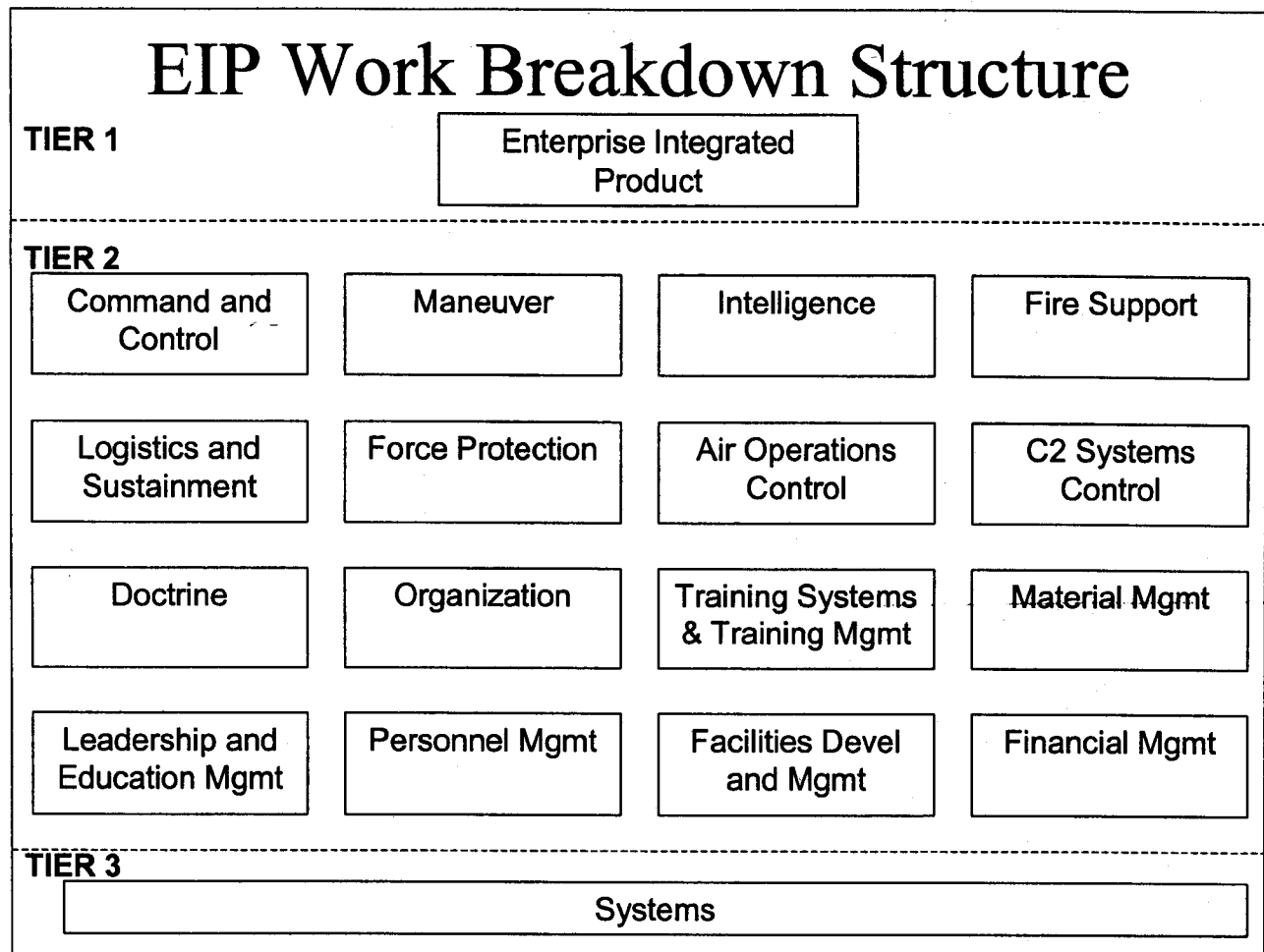


Figure 3-2. EIP Work Breakdown Structure

3.2.2 EIP WBS Level 1. Enterprise Integrated Products

Enterprise Integrated Products (EIPs) are defined to coincide with the DOD Joint Vision statements. Intermediate EIPs are defined as either the baseline EIP or to coincide with the concepts of the Expeditionary Force Development System (reference (f)). EIP-2005 is the baseline EIP and consists of the Federation of Systems (FOS) as it shall emerge from acquisition activity through the end of fiscal year 2004 (FY04). EIP-2010 represents MARCORSYSCOM's EIP response to Joint Vision 2010 (JV-2010) (reference (g)), and consists of the FOS as it shall emerge from acquisition activity through the end of FY09. EIP-2015 supports the timeframe for the current EFDS process and consists of the FOS as it shall emerge from acquisition activity through the end of FY14. EIP-2020 represents the EIP response to JV-2020 (reference (h)), and consists of the FOS as it shall emerge from acquisition activity through the end of FY19.

3.2.3 EIP WBS Level 2. Command and Control Functional Areas

EIP functional areas for the operating forces are derived from the Marine Corps Expeditionary Maneuver Warfare concept (reference (i)). EIP functional areas for the supporting establishment are derived from the Joint Vision Implementation Plan (reference (j)). Three additional

functional areas are defined for the sake of completeness and to allow grouping of systems with similar design constraints. Descriptions of each functional area are provided in Appendix A.

- a. Operating Forces EIP Functional Areas. These include: Command and Control (C2), Maneuver, Intelligence, Fire Support, Logistics and Sustainment, and Force Protection.
- b. Supporting Establishment EIP Functional Areas. These include: Doctrine, Organization, Training, Material Management, Leadership and Education, Personnel, and Facilities Management.
- c. Additional EIP Functional Areas. These include: Air Operations Control, C2 Systems Control (Networks, Communications Systems, Management of C2 Systems), and Financial Management.

3.2.4 EIP WBS Level 3. Systems and Configuration Items

Appendix C lists those systems that comprise the EIP, as assigned to each functional area. For each system, the Configuration Item for the purposes of the ECMP is the C4ISP that has been approved by the DEP CDR C4I/I. In cases where no C4ISP is required, programs are required to prepare the minimum set of architectural views (SV-2, SV-6, TV-1), which are then approved by the DEP CDR C4I/I. This approved minimum set is the Configuration Item for systems that are not required to prepare a C4ISP.

3.3 Configuration Control

3.3.1 Enterprise Configuration Control Board

The purpose of the Enterprise Configuration Control Board is to review issues and changes to the approved configurations of EIP systems which are of a technical nature and which have potential to affect the design or performance of two or more systems within EIP or between the EIP FOS and external systems. The membership of the ECCB is described in Chapter 1. The ECCB shall conduct regular meetings quarterly, usually on a schedule that coincides with the meeting of the Target Board, described in the SEMP (reference (c)). Extraordinary meetings may be directed to respond to urgent reviews when directed by the Chairman. In some cases, an extraordinary meeting may be conducted purely by electronic means such as electronic mail. When it is necessary to conduct an extraordinary meeting of the ECCB, the decisions reached during the extraordinary meeting shall be reviewed at the next regularly scheduled meeting to ensure that members who were not able to participate in the extraordinary meeting may have the chance to put forward any relevant amplifying information. The ECCB is to be a decision-making body. Therefore, information briefings shall be heavily circumscribed. Normally, IPT status reports shall be the only information briefings conducted. In order to support the decision-making function of the ECCB, the Secretariat shall deliver to the members copies of issue papers, briefings, and other necessary material at least one week prior to the meeting.

3.3.2 The ECCB and the Project-level CCBs

The relationship between the ECCB and project-level configuration control boards (PCCB) is depicted at Figure 1-1. The ECCB is the reviewing and approval agency for Class I ECPs within the EIP and between systems of the EIP and external Agencies. PCCBs retain approval authority for Class II ECPs. See Appendix A for definitions of Class I and Class II ECPs. The project team system engineer is responsible for preparing proposed Class I ECPs for review by the ECCB. Following review by the program management team's (PMT) system engineer and the

product group (PG) system engineer, the team system engineer shall deliver the proposed Class I ECP to the Assessments Section of the SE&I Division for initial assessment.

3.3.3 Initial Assessments

The Assessments Section shall evaluate the proposed ECP to ensure compliance with existing Command policies, for its impact on other systems of the EIP, and for its impact on the interfaces to external systems. Following this initial evaluation, the Assessments Section shall prepare a recommendation for disposition and forward to the DIR SE&I for approval. Possible recommendations include:

- No significant impact on other systems, in which case the proposed ECP shall be returned to the PGD or PM recommending approval by the DIR SE&I.
- Significant impacts on other systems exist and have been accounted for in the program plans for those systems. Recommend approval.
- Significant impacts on other systems exist but have not been accounted for in the program plans for those systems. Recommend referral to the ECCB for disposition.

Based on a recommendation that an impact exists on other systems, the proposed ECP and the evaluation report together become a proposed Enterprise Engineering Change Proposal (EECP).

3.3.4 DIR SE&I

The DIR SE&I shall review EECPs and schedule them for the next ECCB. In those cases where the external system's program plan has accounted for the proposed change, the DIR SE&I may grant interim approval at the time of review and present the EECP at the next ECCB of review by all members. In those cases where the external system's program plan has not accounted for the proposed change, the proposing PM shall present the EECP to the ECCB for disposition.

3.3.5 ECCB Action

The PM shall present the proposed EECP, supported by the SE&I Assessment Section. Following the presentation, the ECCB shall recommend disposition on the proposed EECP to the Chairman of the ECCB. The Chairman may do one of the following:

- Approve the EECP, in which case it is returned to the PM of the proposing and affected project team for execution.
- Disapprove the EECP.
- Refer the proposed EECP to the EIWG for further investigation, in which case the decision is postponed until returned by the EIWG.

3.3.6 Program Manager Reclama

In the event that the program manager disagrees with the outcome of the proposed EECP at the ECCB, there are two paths to reclama that outcome.

- a. The PM may seek a rehearing at the ECCB after the proposed EECP has been corrected to resolve the issues presented by the ECCB.
- b. The PM may seek a review of the outstanding issues with the Milestone Decision Authority (MDA) for the project. In this case, the MDA will consult with the Chairman of the ECCB prior to rendering a decision.

3.4 Release Management

A method is needed to synchronize releases of new systems and system upgrades across the EIP. An IPT has been organized under the Target Process, described in the SEMP (reference (c)), to investigate methods for accomplishing this. This paragraph shall be completed after that IPT has developed its recommendations.

SECTION 4

CONFIGURATION STATUS ACCOUNTING

4.1 Configuration Management Tools

The DIR SE&I shall establish a PCCB for the MSTAR database and the MCIAP.

4.1.1 C2 Functional Area Documents

The DIR SE&I shall establish a library of approved architectural views for each C2 functional area. The Commanding General MCCDC is the approval authority for Marine Corps operational views for each C2 functional area that supports the operating forces. Operational views for the supporting establishment C2 functional areas may be developed at a later date. Under the provisions of reference (k), the DEP CDR C4I/I is the approval authority for Marine Corps system views and technical views. System views for the C2 functional areas that support the operating forces shall be developed from approved operational views provided by MCCDC. System views for the C2 functional areas that support the supporting establishment and for Financial Management shall be developed within each program and are limited to those necessary to conduct the acquisition of the individual system. System views for the Air Operations Control and C2 Systems Control shall be developed from approved operational views by extracting the applicable portions of the operational views from each functional area and combining these into a notional operational view. Technical views for all systems shall be based on the Joint Technical Architecture (JTA) (reference (l)), to the extent possible. The JTA shall be tailored to meet the needs of the system, consistent with maintaining the greatest degree of interoperability with interfacing systems. Technical views for EIP systems shall be supplemented to reflect exiting MARCORSYSCOM policies of integration and interoperability. The Technical Section of the SE&I Division supports developing the TV-1 by providing subject matter expertise with respect to tailoring the JTA and other standards. They also represent issues from the programs to the Joint standards working groups where the JTA is developed.

4.1.2 Program Documentation Configuration Control

The DIR SE&I shall establish a method for tracking the configuration of the C4ISP (or equivalent document) for each system and for maintaining a web-enabled library of current, approved versions of these documents. The PM shall develop methods for tracking the configurations of other program-level documents and shall maintain a web-enabled library of current, approved program-level documents.

4.1.3 EIP Configuration Tracking

The systems that compose each EIP (EIP-2005, EIP-2010, etc.) shall be defined by the DEP CDR C4I/I. PMs shall provide the system version information for their systems that is applicable to each EIP. The DIR SE&I shall maintain a current, web-enabled library of this information. The DIR SE&I shall establish a method for tracking EECPS. The CO MCTSSA shall deliver an EIP Assessment Report at the conclusion of these events to the DEP CDR C4I/I. This report shall identify the versions of each EIP system that were successful at meeting their interoperability and integration test goals. The version of each system that successfully meets its interoperability and integration goals shall be used to update the approved EIP list.

4.1.4 Configuration Status Accounting Report

DIR SE&I shall prepare a quarterly report on the configuration status of the EIP systems and its supporting tools. The report shall include the following information.

- a. The current list of EIP systems, allocated by C2 functional area.
- b. The EIP year assignment for each system.
- c. The date and the tracking number of the last approved version of the C4ISP (or equivalent) for each system.
- d. The current fielded version for each system.
- e. The current developmental version of each system that has successfully met its interoperability and integration goals during an EIP assessment, if different from the fielded version.
- f. Other interoperability certification results, such as successful Joint Interoperability Test Center (JITC) certification, Network-Centric Engineering Services, Common Operating Environment (NCES COE) certification, etc.

4.2 EIP Configuration Verification and Audit

4.2.1 EIP Assessments

The EIP FOS shall be assessed in order to verify the performance of each system in the FOS, as well as to measure the performance of the FOS as a whole. The procedures to accomplish this are described in Appendix E.

4.2.2 DIR SE&I Review of Program Documentation.

The DIR SE&I is assigned to monitor the development of EIP systems and upgrades. This is accomplished through periodic review of programmatic system documentation. C4ISPs are the key interoperability and integration management document. SE&I Division supports developing the C4ISP by assisting in developing operational, system, and technical architectural views that are specific to the program; after which the project team designs its development program to meet the interoperability and integration goals within the C4ISP. The architectural information is derived from the approved operational and system views for the C2 functional area of the system. Once completed, the C4ISP is approved by the DEP CDR C4I/I and becomes the main EIP configuration item for the program. The C4ISP is updated at each milestone review and prior to beginning any new system upgrades after fielding. The DIR SE&I reviews other key program documentation to ensure that the interoperability and integration goals for the program, as specified in the C4ISP, are being considered throughout the system development, as well as to verify that the interoperability and integration plan identified by the development team in the C4ISP is being followed.

4.2.3 DEP CDR C4I/I Planning Meetings

In addition to EIP assessments and reviews of programmatic documentation, the DEP CDR C4I/I meets monthly with the C4I/I system engineering team for the EIP. This team consists of the DEP CDR C4I/I; the division heads of the C4I/I Directorate; directors from each product group; the Commanding Officer, MCTSSA; and the program managers from each program not included

in a product group. This is an informal meeting and is open to agenda items from all members. Details of this meeting will be contained in the MARCORSYSCOM EIP SEMP (reference (c)).

APPENDIX A: ACRONYMS AND TERMINOLOGY

AAP: Abbreviated Acquisition Program

ACAT: Acquisition Category

AIS: Automated Information System

Approved Interface: An interface that has been defined within a C4ISP, which has been approved by the DEP CDR C4I/I.

Architecture: The structure of components, their relationships, and the principles and guidelines governing their design and evolution over time.

C2: Command and Control

C4I: Command, Control, Communication, Computers and Intelligence

C4ISP: Command, Control, Communications, Computers and Intelligence Support Plan

C4ISR: Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

CAPS: Command Automated Program/Information System

CJSI: Chairman Joint Chiefs of Staff Instruction

Class I ECP: An ECP requiring a change to an interface that causes a required change to another system's documented interface (reference (m)).

Class II ECP: An ECP that does not require a change to an interface or cause a required change to another system's documented interface (reference (m)).

CM: Configuration Management. CM is the process that controls the system products, processes, and related documentation. The CM effort includes identifying, documenting, and verifying the functional and physical characteristics of an item; recording the configuration of an item; and controlling changes to the item and its documentation; and performing audits on the several baselines. It provides a complete audit trail of decisions and design modifications.

CMP: Configuration Management Plan

CO: Commanding Officer

DEP CDR C4I/I: Deputy Commander, Command, Control, Communications, Computers, and Intelligence Integration

DIR SE&I: Director, Systems Engineering and Integration Division

DOD: Department of Defense

ECCB: Enterprise Configuration Control Board

ECMP: Enterprise Integrated Product (EIP) Configuration Management Plan

ECP: Engineering Change Proposal

EECP: Enterprise Engineering Change Proposal

EIP: Enterprise Integrated Product

EIWG: Enterprise Interoperability Working Group

FOS: Federation of Systems. A system-of-systems (SOS) managed without central authority and direction. Constituent systems are managed independently to their own purposes (reference (n)).

Functional Areas: Include:

a) Operating Forces EIP Functional Areas:

- 1) Command and Control: The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission (reference (o)).
- 2) Maneuver: 1. A movement to place ships, aircraft, or land forces in a position of advantage over the enemy. 2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war. 3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements. 4. Employment of forces in the battlespace through movement in combination with fires to achieve a position of advantage in respect to the enemy in order to accomplish the mission (reference (o)).
- 3) Intelligence: 1. The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas. 2. Information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding (reference (o)).
- 4) Fire Support: Fires that directly support land, maritime, amphibious, and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives (reference (o)).
- 5) Logistics and Sustainment: The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance,

operation, and disposition of facilities; and d. acquisition or furnishing of services (reference (o)).

- 6) Force Protection: Actions taken to prevent or mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information. These actions conserve the force's fighting potential so it can be applied at the decisive time and place and incorporate the coordinated and synchronized offensive and defensive measures to enable the effective employment of the joint force while degrading opportunities for the enemy (reference (o)).

b) Supporting Establishment EIP Functional Areas:

- 1) Doctrine: Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application (reference (o)).
- 2) Organization: For combat in amphibious operations, task organization of landing force units for combat, involving combinations of command, ground and aviation combat, combat support, and combat service support units for accomplishment of missions ashore. For embarkation in amphibious operations, the organization for embarkation consisting of temporary landing force task organizations established by the commander, landing force and a temporary organization of Navy forces established by the commander, amphibious task force for the purpose of simplifying planning and facilitating the execution of embarkation. For landing in amphibious operations, the specific tactical grouping of the landing force for the assault. In organization of the ground, the development of a defensive position by strengthening the natural defenses of the terrain and by assignment of the occupying troops to specific localities (reference (o)).
- 3) Training Systems, Training Management: The systems and associated management used to impart a knowledge or skill on another system.
- 4) Material Management: The management of all items (including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes (reference (o)).
- 5) Leadership and Education: Functions related to the imparting of knowledge or skills as a learning process
- 6) Personnel: Functions related to the administration of human resources.
- 7) Facilities Management: The management of a real property entity consisting of one or more of the following: a building, a structure, a utility system, pavement, and underlying land (reference (o)).

c) Additional EIP Functional Areas:

- 1) Air Operations Control: The management and direction of air resources involved in the performance of the following operations: airborne, air defense (aircraft and surface-to-air missiles), airspace control, air strike/interdiction, direct air support, and search and rescue. (JINTACCS IPD (U) (Confidential) March 1984)

- 2) C2 Systems Control: The networks, communications systems, and other systems used for moving information; also the systems used to control communications networks and systems.
- 3) Financial Management. Financial management encompasses the two core processes of resource management and finance operations. Resource management is the execution of the resource management mission that includes providing advice and guidance to the commander, developing command resource requirements, identifying sources of funding, determining cost, acquiring funds, distributing and controlling funds, tracking costs and obligations, cost capturing and reimbursement procedures, and establishing a management control process. Financial operations is the execution of the joint finance mission to provide financial advice and guidance, support of the procurement process, providing pay support, and providing disbursing support (reference (o)).

ITS: Information Technology System. ITS is defined as any equipment, or interconnected system or subsystem of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, transmission, or reception of data or information by the executive agency. The term also includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources.

Interoperability: Interoperability is the ability of systems, units or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces, and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together. Interoperability includes both technical exchange of information and the end-to-end operational effectiveness of that exchange of information as required for mission accomplishment.

IPT: Integrated Product (or Process) Team

JTA: Joint Technical Architecture

JITC: Joint Interoperability Test Center

MAGTF: Marine Air-Ground Task Force

MDA: Milestone Decision Authority

MSTAR: MAGTF Systems/Technical Architecture & Repository

MARCORSYSCOM: Marine Corps Systems Command

MCCDC: Marine Corps Combat Development Command

MCIAP: Marine Corps Integrated Architecture Picture

MCTCA: Marine Corps Tactical Communications Architecture

MCTSSA: Marine Corps Tactical Systems Support Activity

MIRC: MAGTF Interoperability Requirements Concept

NCES COE: Network-Centric Enterprise Services Common Operating Environment

NSS: National Security System. Any telecommunications or information system operated by the U.S. Government, the function, operation and use of which involves intelligence activities; involves crypto logic activities related to national security; involves command and control of military forces; or involves equipment that is an integral part of a weapon or weapons system.

OASD: Office of the Assistant Secretary of Defense

OV: Operational View

PCCB: Project-level Configuration Control Board

PGD: Product Group Director

PM: Program Manager

PTL: Project Team Leader

SE&I: Systems Engineering and Integration

SEMP: Systems Engineering Management Plan

SOS: A set of different systems so connected or related as to produce results unachievable by the individual systems alone (reference (n)).

SV: System View

TD: Technical Director

TIGER: Total Information Gateway for Enterprise Resources

TIDP: Technical Interface Design Plan

TOR: Target Origination Request

TV: Technical View

WBS: Work Breakdown Structure

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APPENDIX B: REFERENCES

- (a) Marine Corps Systems Command Policy Letter 11-02, "Command, Control, Communications, Computers, And Intelligence Support Plan (C4ISP) Completion Process For Marine Corps Systems Command (MARCORSYSCOM) Programs"; 26 August 2002
- (b) DOD Directive 4630.5, "Interoperability, and Supportability of Information Technology (IT) and National Security Systems (NSS)"; 11 January 2002
- (c) Marine Corps Systems Command Systems Engineering Management Plan, draft
- (d) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01B, "Interoperability and Supportability of National Security Systems, and Information Technology Systems"; 8 May 2000
- (e) "C4ISR Architecture Framework", Architectures Working Group; 18 December 1997
- (f) Marine Corps Order P3900.15A, "Marine Corps Expeditionary Force Development System"; 26 November 2002
- (g) "Joint Vision 2010"; US Government Printing Office; Washington DC; undated
- (h) "Joint Vision 2020"; US Government Printing Office; Washington DC; June 2000
- (i) Expeditionary Maneuver Warfare, Headquarters, United States Marine Corps, 10 November 2001
- (j) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3010.02A, "Joint Vision Implementation Master Plan"; 15 April 2001.
- (k) Memorandum of Agreement on Marine Corps Chief Information Officer Roles and Responsibilities; 4 October 2002
- (l) DoD "Joint Technical Architecture", Version 4.0; 17 July 2002
- (m) MIL-HDBH-61A (SE) "Configuration Management Guidance"; 7 February 2001
- (n) Krygiel, Annette J.; Behind the Wizard's Curtain; DoD C4ISR Cooperative Research Program Publishing; July 1999
- (o) Joint Publication 1-02 "Joint Acronyms"; 7 May 2002

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APPENDIX C: LIST OF ENTERPRISE INTEGRATED PRODUCT SYSTEMS

The following is a list of the 16 functional areas, used to group and manage systems that are part of the Enterprise Integrated Product (EIP). The list is followed by the systems and programs of the EIP.

- 1) Air Operations Control Functional Area Systems
- 2) C2 Systems Control Functional Area Systems
- 3) Command and Control Functional Area Systems
- 4) Doctrine Functional Area Systems
- 5) Facilities Management Functional Area Systems
- 6) Financial Management Functional Area Systems
- 7) Fire Support Functional Area Systems
- 8) Force Protection Functional Area Systems
- 9) Intelligence Functional Area Systems
- 10) Leadership and Education Functional Area Systems
- 11) Logistics and Sustainment Functional Area Systems
- 12) Maneuver Functional Area Systems
- 13) Material Management Functional Area Systems
- 14) Organization Functional Area Systems
- 15) Personnel Management Functional Area Systems
- 16) Training Functional Area Systems

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Project Acronym

Project Title

3-D Radar
ADCP
AH-1
ATACC
AV-8B
CAC2S
CH-46
CH-53
CLAWS
CTAPS (ATO)
CWAR
DASCAS
EA-6B
F/A-18
GCS-2000
IDASC
JRE
JSF
KC-130
LAAD Sustainment
LAV AD
MATCALS
MCSLAP
MRRS
MRTB
MV-22
N/A
PMS
Predator
S/MR Radar
TACC
TAMPS
TAOM
TBMCS
TDAR AN/UPS-3
TDCC
TPS-63
UAV
UH-1
URC-107

Air Operations Control Function

Three Dimensional Long Range Radar
Air Defense Communications Platform
AH-1
Advanced Tactical Air Command and Control Central (AN/TYQ-51)
AV-8B
Common Aviation Command and Control System
CH-46
CH-53
Complementary Low Altitude Weapons System
Contingency Theater Automated Planning System
Continuous Wave Acquisition Radar
Direct Air Support Central Airborne System
EA-6B
F/A-18
Ground Control Station (GCS) For UAV
Improved Direct Air Support Central (IDASC)
JTIDS Range Extension Request
JSF
KC-130
Low Altitude Air Defense Sustainment
Light Armored Vehicle-Air Defense
Marine Air Traffic Control And Landing System
Marine Corps Stationary Lighter than Air Platform
Multi-Role Radar System
Multifunction Radar Transponder Beacon
MV-22
AN/TPS-59(V)3E Program
Avenger Pedestal Mounted Stinger
Predator
Short/Medium Range Radar
Tactical Air Command Center
Tactical Aircraft Mission Planning System
Tactical Air Operations Module
Theater Battle Management Core Systems
Tactical Defense Alert Radar
Tactical Data Communications Central (AN/TYQ-3A)
Radar Set (AN/TPS-63)
Unmanned Aerial Vehicle
UH-1
JTIDS CL 2H Terminal (AN/URC-107(V)9)

AN/GRC-171
ARC-102
ARC-174
ARC-190
ARC-199
ARC-210
ARC-94
ASC-26
ASQ-177
ATI

C2 Systems Control Function

Family of Ground to Air Ultra High Frequency (UHF) Radio
HF Radio Set (AN/ARC-102)
HF Radio Set (AN/ARC-174)
HF Radio Set (AN/ARC-190)
HF Radio Set (AN/ARC-199)
Radio Set (VHF/UHF SCR) (AN/ARC-210)
HF Radio Set (AN/ARC-94)
Heliborne Communications Group
Radio Set, Airborne PLRS
Automatic Test Integration

Project Acronym

Project Title

C2 Systems Control Function (continued)

CASC	Communications Air Support Central
CGS300	Communication Gateway System 300
CGS-400	Common Ground Station 400
DACT	Data Automated Communications Terminal
DAGR	Defense Advanced Global Positioning System Receiver
DCS-2000	Digital Communications System 2000
DDS	Digital Data Set
DMS	Marine Corps Defense Message System
DTC	Digital Technical Control
DWTS PIP	DWTS Product Improvement Program (PIP)
EPLRS	Enhanced Position Location Reporting System
FCC-100	Multiplexer
GBS	Global Broadcast Service
GRC-193B	Radio Set (AN/GRC-193B (V)3)
GRC-201	Radio Set (AN/GRC-201)
GRC-210	Auxiliary Ground Radio Set (PLRS)
GRC-213	Radio Set (AN/GRC-213B)
GRC-231A	Radio Set (AN/GRC-231A (V)2)
HAVEQUICK	Radio Set (AN/GRC-171A (V)4) (HAVE QUICK II)
HFMR	High Frequency (HF) Radio
HHCP	High Speed High Resolution Color Printer
IA	Information Assurance
IRHS	Infantry Radio Headgear Set
ISR	Intra Squad Radio
JECCS	Joint Enhanced Core Communication System
JNMS	Joint Network Management System
JTRS	Joint Tactical Radio System
LMR/RRS	Land Mobile Radio
LMST	Lightweight Multiband Satellite Terminal
MAST (SMART-T)	MILSTAR Advanced Satellite Terminal
MCHS	Marine Common Hardware Suite
MDL	MAGTF Data Library
MIDS	Multifunction Information Distribution System
MRC-110	Radio Set (AN/MRC-110A)
MRC-138B	Radio Set (AN/MRC-138B (V))
MRC-140	Radio Set SATCOMM On The Move
MRC-142	Digital Wideband Transmission System/SMAK
MSBL	MAGTF C4I Software Baseline
MSCS	Correlation System, Multiple Source (MSCS) (AN/TYQ-101)
NI	Network Infrastructure
NMCI	Navy Marine Corps Intranet
PK-E	Public Key Enabling
PKI	Public Key Infrastructure
PLGR	Precision Lightweight Global Positioning System Receiver
PRC 117F (TACSAT)	PRC 117F Radio
PRC-104	HF Radio Set (AN/PRC-104)
PRC-113	Radio Set, UHF (AN/PRC-113(V)3)
PRC-148	Tactical Handheld Radio
PRC-150	HF Manpack Radio
RTU	Remote Terminal Unit
Saber Radio	Saber Radio

Project Acronym

Project Title

C2 Systems Control Function (continued)

SB-22	Switchboard, Telephone, Manual (SB-22/PT)
SB-3614	Switchboard, Telephone, Automatic (SB-3614(V)TT)
SB-3865	Switching Unit, Telephone, Automatic (SB-3865)
SCT	Smart Card Technology
SINCGARS	Single Channel Ground And Airborne Radio System
SPEED	System Planning, Engineering, And Evaluation Device
SPITFIRE	AN/PSC-5 Enhanced Manpack UHF Terminal
TDMS	Tactical Defense Messaging System
TDN	Tactical Data Network
THHR	Tactical Hand Held Radio
TIGER	Total Information Gateway for Enterprise Resources
TRC-170	Troposcatter Radio Set
TSC-120	HF Communication Central
TSC-85C	Ground Mobile Force (GMF) Communications Terminal (AN/TSC-85C)
TSC-93C	Ground Mobile Force (GMF) Communications Terminal (AN/TSC-93C)
TSC-96A	Fleet Satellite Communications Central
TSM	Transition Switch Module
TTC-42	Automatic Telephone Central Office Unit Level Switch
ULCSPIP	Unit Level Circuit Switch Product Improvement Program
VR-102	Radio Set (AN/VR-102)
VR-83	Radio Set (AN/VR-83 (V)2)

Command and Control Function

AAAV-C	Advanced Amphibious Assault Vehicle – Command Variant
AAVC-7	Amphibious Assault Vehicle – Command Variant
GCCS	Marine Corps Global Command And Control System
JFRG II	Joint Force Requirements Generator II
LAV-C2	Light Armored Vehicle – Command and Control Variant
MCTEEP-MT	Marine Corps Training, Exercise, and Employment Plan - Management Tools
UOC	Unit Operations Center

Doctrine Function

No Programs

Facilities Management Function

FMCP	Facilities Management Capability Program
xBIT	Extensible Business Intelligence Toolkit

Financial Management Function

FIMS II	Financial Information Management System II
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Fire Support Function

AEROS	AN/GVS-5 Replacement
AFATDS	Advanced Field Artillery Tactical Data System
ATHS II	Advanced Target Handoff System II
BCS	Battery Computer System (AN/GYK-29)
EMMT	Electronic/Mechanical Meteorological Theodolite
FTLM	False Target Location Modification
GWLR	Ground Weapons Locating Radar
IPADS	Improved Position and Azimuth Determining System

Project Acronym

Project Title

LAV EFSP
M1A1 FEP
MBC
MPLI
Predator/SRAW
PTS-180
SOFLAM
TCM
TLDHS
TOW

TPQ-46
USMC HIMARS

Fire Support Function (continued)

Light Armored Vehicle Enhanced Fire Support Platform
M1A1 Firepower Enhancements
Mortar Ballistic Computer
Medium Powered Laser Illuminator
Predator/Short Range Antitank Weapon
Precision Targeting System 180
Special Operations Forces Laser Marker
Trajectory Correctable Munitions
Target Location, Designation and Hand-Off System
Tube Launched, Optically Tracked, Wire Guided Missiles Weapons System
Radio Set, Firefinder
High Mobility Artillery Rocket System

ACADA
AMD
CBIS
CMI Services
DMS
FIRS
FMP ACTD
Hapsite
JBPDS
JBSDS
JCAD
JSLNBCRS

JSLSCAD
JWARN
MIDAS-AT
NBCRSP3I
PCRBA
PFDS
Portable GC/MS
RDS
RSCAAL
SCAD
SUBD
TSCM
Video Probe

Force Protection Function

Automated Chemical Agent Detector Alarm
Advanced Mine Detector
Chemical and Biological Individual Sampler
Consequence Management Interoperability Services
Deployable Meteorological System
Family of Incident Response Systems (Formerly CBIRF)
Force Medical Protection ACTD
Field Rugged Gas Chromatograph/Mass Spectrometer (GC/MS)
Joint Biological Point Detection System
Joint Biological Standoff Detection System
Joint Chemical Agent Detector
Joint Service Light Nuclear, Biological, Chemical Reconnaissance System
Joint Service Lightweight Standoff Chemical Agent Detector
NBC Joint Warning and Reporting Network
Meteorological Information and Dispersion Assessment
Reconnaissance System Fox XM93/AI
Polmerase Chain Reaction Biological Analyzer
Proximity Fuze Defense System
Portable Gas Chromatograph/Mass Spectrometer (GC/MS)
Radiation Detection System
Remote Sensing Chemical Agent Alarm PIP
Standoff Chemical Detector
Small Unit Biological Detector
Technical Surveillance Countermeasures
Video Probe
Biological Agent Detection and Identification
Chemical Agent Warning Network
Digital Radiation Dosimeter
Fly Away Communication Suite

Intelligence Function

CCIS
CESAS
CIHEP
COBRA
CTN

Combat Camera Imagery System
Communications Emitter Sensing and Attacking System
Counterintelligence And HUMINT Equipment Program
Coastal Battlefield Reconnaissance And Analysis
Composite Tracking Network

Project Acronym

Project Title

CTT3
DTAMS
I3 Initiatives
INTEL WS
ISURSS
JDIICS-D
JDISS
JSIPS TEG
JSTARS Connectivity
JTT/CIBS-M

MAGIS
MEF IAS, IOS (V2), IOW
MEWSS PIP

MSIDS
RREP
SIDS
TACPHOTO
TCAC
TERPES
TPC
TPCS -MPC
TPCS UPGRADE
TROJAN LITE
TROJAN SPIRIT II
TRSS
TUGV
TVRSTA

ULQ-19

DL

AEODR
AMS-TAC
ARS
ATLASS II+
ATLASS PIP
ATV
CAEMS
CALMS
CSSE SDE/Data Warehousing
DR
GCSS-MC
HMMS
HMMWV A2
ICADS

Intelligence Function (continued)

Commanders' Tactical Terminal Three-Channel
Digital Terrain Analysis Mapping System
I3 Initiatives
Intelligence Operations Server (V2) Workstation
Interim Small Unit Remote Scouting Systems
Joint Defense Information Infrastructure Control Systems - Deployed
Joint Deployable Intelligence Support System
Joint Service Imagery Processing System Tactical Exploitation Group
Joint Surveillance Target Attack Radar System Connectivity
Joint Tactical Terminal & Common Integrated Broadcast Service-
Modules
Analysis Center, Intelligence (MAGIS) (AN/TYQ-19(V))
Intelligence Analysis System
Mobile Electronic Warfare Support System - Product Improvement
Program
Manpack Secondary Imagery Dissemination System
Radio Reconnaissance Equipment Program
Secondary Imagery Dissemination System
Tactical Intelligence Photographic Capability
Technical Control Analysis Center
Tactical Electronic Reconnaissance Processing And Evaluation System
Topographic Production Capability
Team Portable Collection System Multi-Platform Capable
Team Portable Collection System Upgrade
Trojan Spirit Lightweight Integrated Telecommunications Equipment
Trojan Special Purpose Integrated Remote Intelligence Terminal II
Tactical Remote Sensor Systems
Tactical Unmanned Ground Vehicle
Tactical Vehicle Reconnaissance Surveillance and Target Acquisition
Capability
Electronic Warfare Jammer
Thermal Imager

Leadership and Education Function

Distance Learning Program
Family of Tactical Decision Games

Logistics and Sustainment Function

Advanced EOD Robot
Automated Manifest System-Tactical
Advanced Radiographic System
Asset Tracking Logistics And Supply System II+
ATLASS PIP
All Terrain Vehicle
Computer-Aided Embarkation Management System
Computer Assisted Load Manifesting System
CSSE Shared Data Environment
Digital Radiography
Global Combat Support System
Hazardous Materials Management
High Mobility Multipurpose Wheeled Vehicle A2 Series
Improved Cargo Aerial Delivery System

Project Acronym Project Title

Logistics and Sustainment Function (continued)

ICODES	Integrated Computerized Deployment System, part of MAGTF LOGAIS
IFAV	Interim Fast Attack Vehicle
ITV	Internally Transportable Vehicle
LVSR	Logistics Vehicle System Replacement
MAGTF LOGAIS	Marine Air-Ground Task Force Logistics Automated Information System
MCDSS	Materiel Capability Decision Support System
MDSS II	MAGTF Deployment Support System II, part of MAGTF LOGAIS
MIMMS	Marine Corps Integrated Maintenance Management System
MMM	Mobile Medical Monitor
SASSY	Supported Activities Supply System
SCS	Stock Control System
SUL	Small Unit Logistics
TC-AIMS	Transportation Coordinators Automated Information for Movement System
TC-AIMS II	Transportation Coordinators Automated Information for Movement System II
TIMA	Tool and Inventory Management Application
TMIP-M	Theater Medical Information Program (Maritime)
TRCC	Transportable Regional Calibration Capability

Maneuver Function

AAAV	Advanced Amphibious Assault Vehicle
AAV	Amphibious Assault Vehicle, Personnel
ABV	Assault Breaching Vehicle
CID	Combat Identification
LAV AAS	Light Armored Vehicle Advanced Antitank System
SURC	Small Unit Riverine Craft
TCO	Tactical Combat Operations

Material Management Function

CAPS	Command Automated Program Information System
CMIS/MEARS	Configuration Management Information System
IICS	Integrated Infantry Combat System
JDEP	Joint Distributed Engineering Plant
JTMs	Joint Technical Manuals
KMP	Knowledge Management Portal
PA	Paperless Acquisition
PDREP	Product Data reporting Evaluation Program
SPS	Standard Procurement System

Organization Function

TFDW	Total Force Data Warehouse
TFSMS	Total Force Structure Mgt System

Personnel Function

ACRS	Automated Career Retention System
C123M	CLASS I / II / III Maintenance
DIMHRS	Def Integrated Military Human Resources System
DPRIS	Defense Personnel Records Imaging System
DTS	Defense Travel System
MCMEDS	Marine Corps Medical Entitlements Data System

Project Acronym

Project Title

MCMODS (ODSE)
MCTFS
MFL
MIPS (UD/MIPS)

MMAS
MODELS
PES PIP
TFAS
TFRS

AAAV
CAST
CLASS
CVTS
IMTS
ISMT/ISMT-E
JSIMS
LOMAH
MILES 2000
MTWS
PGTS
PITS
RETS
RIS

Personnel Function (continued)

Marine Corps Manpower Operational Data Store
Marine Corps Total Force System
Marine For Life
Marine Integrated Personnel System, Marine Integrated Logistics System (MILOGS)
Manpower Mobilization Assignment System
Manpower Models
Performance Evaluation System Product Improvement Program
Total Force Administration System
Total Force Retention System

Training Function

Advanced Amphibious Assault Vehicle Training System
Combined Arms Command and Control Training Upgrade System
Closed Loop Artillery Simulation System
Combat Vehicle Training System
Improved Moving Target Simulator
Indoor Simulated Marksmanship Trainer - Enhanced
Joint Simulation System
Location of Miss and Hit
Multiple Integrated Laser Engagement System 2000
MAGTF Tactical Warfare Simulation
Precision Gunnery Training System
Portable Infantry Target System
Remoted Target System
Range Instrumentation Systems
Fire and Emergency Service Incident Command Simulator
Line Charge Simulated Training System
Stinger Target System

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APPENDIX D: C4ISP PROCEDURES

D.1 PURPOSE

As described in Section 1, MARCORSYSCOM accomplishes its CM functions through the use of C4ISPs. This appendix describes the C4ISP development and approval process for MARCORSYSCOM AAPs and ACAT III and IV programs. Attachment D-1 offers information on how Marine Corps ACAT I, IA, and II programs develop C4ISPs, and how they coordinate their effort with MARCORSYSCOM. Attachment D-2 provides a checklist for determining the need for a C4ISP. Attachment D-3 provides details on preparing for the C4ISP Establishment Review. Attachment D-4 details procedures to follow in reviewing C4ISPs developed outside of MARCORSYSCOM.

D.2 BACKGROUND

Previous DoD policy dictated that C4ISPs were only required for ACAT I programs, and other special interest programs designated by the Assistant Secretary of Defense (C3I). Reference (d) implemented a new policy requiring the development of C4ISPs for programs in all acquisition categories when they connect in any way to the communications and information infrastructure. The C4ISP provides a mechanism to identify and resolve C4ISR support shortfalls, and planned solutions at any given phase in a program's acquisition cycle.

D.3 C4ISP POLICY

The following subsections describe the policy on creation and maintenance of MARCORSYSCOM-generated C4ISPs.

D.3.1 When Required

C4ISPs are required for all ACAT programs and all Abbreviated Acquisition Programs under the cognizance of the Commanding General, MARCORSYSCOM that connect in any way to the communications and information infrastructure. C4ISPs will be used within the command to facilitate integration and interoperability among the information systems within all program directorates and programs reporting directly to the Commanding General. Attachment D-2 provides a checklist for determining the need for a C4ISP.

D.3.2 C4ISP Timeframe

When a program meets the criteria specified in reference (d) requiring a C4ISP, PGDs and PMs will ensure an approved C4ISP is completed/updated prior to major program reviews or milestone decisions.

D.3.3 C4ISP Maintenance

Once completed, a C4ISP shall be kept current through the final production milestone decision, and updated if undergoing a major upgrade or product improvement. Approved C4ISPs will be used to monitor the progress of the system development toward meeting its integration and interoperability goals.

D.4 PROCEDURES

Figure D.1 provides a diagram of the process used to create C4ISPs for AAPs and ACAT III and IV programs at MARCORSYSCOM. When a MARCORSYSCOM program is placed on the

Office of the Assistant Secretary of Defense (OASD) "C4ISP Special Interest List," the process for creating a C4ISP is modified as noted in Figure D.2. Both figures are labeled with numbers to correspond to the procedures outlined below.

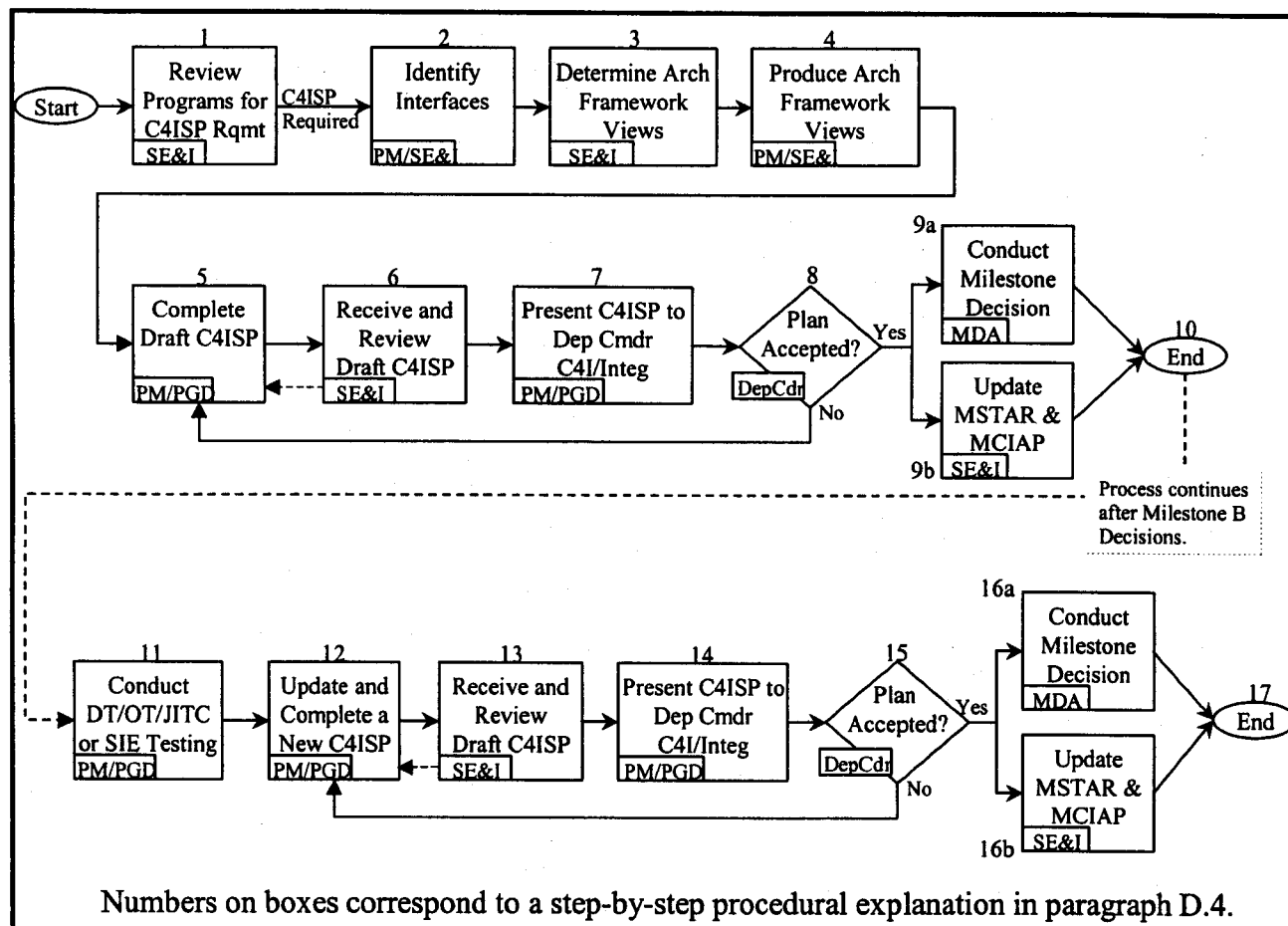


Figure D-1 Process for Preparation and Approval of C4ISPs

D.4.1 Step 1. Review Programs for C4ISP Requirement

SE&I Division begins the C4ISP process by screening all programs listed in the Command Automated Program/Information System (CAPS) for C4ISP applicability. SE&I Division will coordinate with PMs in developing a recommendation as to whether or not a C4ISP is required. Attachment D-2 provides a checklist used to screen each program. One of three determinations will be made during the screening process:

- a. **No C4ISP is required.** The program does not have a reasonable impact, interface, or connection to any system within the Marine Corps communications and information infrastructure.
- b. **A C4ISP is required.** The program represents a significant impact to the Marine Corps communications and information infrastructure.

- c. **A C4ISP is required, but the program was developed under the old DoD 5000.**
When a program requires a C4ISP, but it achieved a post-Milestone II status before 4 January 2001, the program may be considered for a waiver to the C4ISP requirement. When this occurs, such programs shall develop the minimum set of C4ISR Architecture Framework System Views (SV-2, and SV-6), and Technical View (TV-1) to document system-to-system interfaces, and the system's degree of compliance with the Joint Technical Architecture (JTA) and with MARCORSYSCOM policies on the use of common hardware, software, and support products.

D.4.2 Step 2. Identify Interfaces

When a program is determined to require a C4ISP or the minimum set of architectural views, SE&I Division will meet with the PM or designated system engineer in order to identify all interfaces with the system being procured. This determination is used to scope the level of effort needed to diagram the architecture in the C4ISP.

D.4.3 Step 3. Determine Architecture Framework Views

After identifying the system interfaces, SE&I Division will make a determination on the C4ISR Architecture Framework views needed for the C4ISP. The required C4ISP views will reflect an increase in detail as the system progresses through the acquisition cycle.

D.4.4 Step 4. Produce Architecture Framework Views

The fourth step in developing C4ISPs involves creating the C4ISR Architecture Framework views required for the C4ISP. For the majority of the lower ACAT level programs, the Project Team Leader (PTL) will be responsible for creating the architecture views, using templates available on the SE&I Knowledge Center web page of the MARCORSYSCOM secure web site (TIGER). SE&I Division will provide training and support as needed for PTLs using the templates. For complex architectures, SE&I Division will work with the designated PTL to develop the architecture views for the C4ISP. When the SV-6 (System Data Exchange Matrix), and TV-1 (Technical Architecture Profile) are completed, they become directive in nature to the system being acquired.

D.4.5 Step 5. Complete Draft C4ISP

Once the architecture views are completed, the PM shall prepare the remaining portions of the C4ISP, incorporating the completed architectural views. The C4ISP template provides the easiest means to complete a draft C4ISP that meets the mandated C4ISP requirements. PMs shall adjust their acquisition strategy as necessary to implement the standards and connectivity depicted in the architecture views.

D.4.6 Step 6. Receive and Review Draft C4ISP

After a draft C4ISP is completed, it is submitted to SE&I Division for review. During the review process, SE&I Division will work with PMs to clarify ambiguities and resolve integration and interoperability issues. After final corrections are made to the C4ISP, the PM and the Director SE&I shall sign the C4ISP and schedule the C4ISP Establishment Review with the Deputy Commander C4I Integration. After approval by the PM and the Director SE&I, the C4ISP will

be routed to the PGD for concurrence, and to the Marine Corps Chief Information Officer for Service-level confirmation prior to the C4ISP Establishment Review.

D.4.7 Step 7. Present C4ISP to DEP CMDR C4I/I

In the seventh step of the C4ISP process, the PM conducts the C4ISP Establishment Review with the Deputy Commander C4I Integration. Attachment D-3 provides more details on preparing for the C4ISP Establishment Review.

D.4.8 Step 8. Plan Accepted or Returned

Depending on the outcome of the C4ISP Establishment Review, the Deputy Commander will either approve the C4ISP or return it to the PM/PGD for modification.

- a. If approved, the Deputy Commander C4I Integration will sign the C4ISP. The Director, SE&I Division shall be responsible for delivery of the C4ISP to Agencies outside of MARCORSYSCOM in accordance with guidance to be provided by those agencies.
- b. If returned, the C4ISP will be modified, and reenter the approval process.

D.4.9 Step 9. Conduct Milestone Decision & Update MSTAR and MCIAP

Following approval of the C4ISP, the document follows two separate paths:

- a. Step 9a. When a C4ISP is approved, the PM/PGD submits a copy of the signed document to the Assistant Commander, Programs for inclusion in preparatory documentation for the next scheduled milestone decision. CAPS will also be updated to reflect having an approved C4ISP.
- b. Step 9b. SE&I Division will update the MSTAR and MCIAP databases.

D.4.10 Step 10. End of C4ISP Development Process prior to Milestone B

The tenth step reflects the end of the C4ISP development process in preparation for a Milestone B decision. PMs are expected to incorporate the plans for meeting their integration and interoperability requirements into all aspects of their system development, testing, fielding and life cycle support. Steps 11 through 17 reflect the process to update a C4ISP in preparation of a Milestone C decision.

D.4.11 Step 11. Conduct DT, OT, or JITC Testing

The eleventh step in developing a C4ISP reflects the PM's developmental, operational, and joint interoperability testing that occurs during the acquisition process. From this testing, resolution of standards used, and connectivity to hardware (with the software used) are finalized. If testing reveals a major interoperability or standards problem in the architecture views assigned by SE&I Division, Director SE&I Division will work with the PM to resolve the problem. The results of testing provide the information needed to update the program's C4ISP.

D.4.12 Step 12. Update and Complete a New C4ISP

In the twelfth step, the PM shall update the C4ISP based upon results of developmental, operational, and certification testing. The architectural views previously used in earlier versions of the C4ISP will be updated to reflect test results. A draft revised C4ISP is developed and submitted by the PM to SE&I Division for review.

D.4.13 Steps 13 through 17. Similar to Steps 6 through 10

Steps 13 through 17 are similar to Steps 6 through 10 above, but will reflect the additional understanding of the system performance derived from system development and testing.

D.4.14 Additional Steps for "C4ISP Special Interest" Programs

Figure D.2 provides a diagram of the additional steps followed to create C4ISPs for ACAT III and IV programs that have been placed on the Office of the Assistant Secretary of Defense (OASD) "C4ISP Special Interest List." Reference (d) provides the following additional steps for developing "Special Interest" C4ISPs.

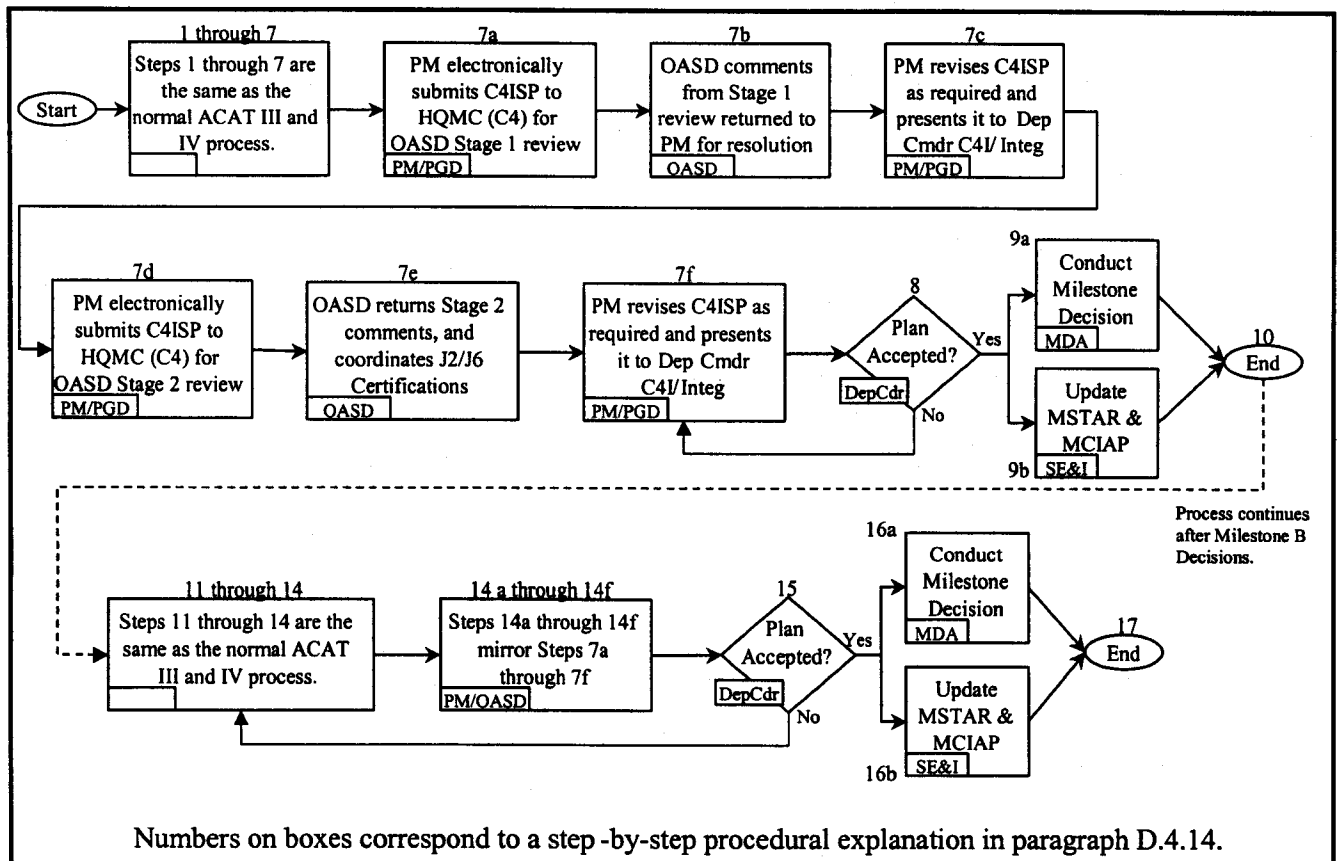


Figure D-2 Process for Preparation and Approval of OASD "C4ISP Special Interest" Programs

- a. **Step 7a.** After a C4ISP has been presented to the Deputy Commander, C4I Integration at Step 7, the PM will electronically submit the document to HQMC (C4) for an OASD

Stage 1 review as defined in reference (d). The Stage 1 review, as coordinated through OASD will take at least 35 days to complete.

- b. **Step 7b.** OASD will gather all comments received on the C4ISP, and return them to the PM (through HQMC (C4)) for resolution.
- c. **Step 7c.** When the comments to the C4ISP are received, the PM resolves the issues addressed, and revises the document as needed. If an issue cannot be resolved by the PM due to scope or subject matter, the Director SE&I Division, or Deputy Commander C4I Integration may be brought into the resolution process for assistance. After the C4ISP has been revised, it is presented once again to the Deputy Commander C4I Integration in the same manner followed at Step 7.
- d. **Step 7d.** After presenting the C4ISP to the Deputy Commander C4I Integration, the PM will resubmit the document to HQMC (C4) for an OASD Stage 2 review as defined in reference (d). The Stage 2 review coordinated through OASD will take at least 21 days to complete.
- e. **Step 7e.** OASD will gather all comments received on the C4ISP and coordinate the generation of the Joint Chiefs of Staff J-2 and J-6 Supportability Certifications. The comments and certifications will be returned to the PM (through HQMC (C4)).
- f. **Step 7f.** If needed, the PM resolves any remaining issues addressed in the Stage 2 review and revises the C4ISP as needed. The completed C4ISP with J-2/J-6 certifications are presented to the Deputy Commander C4I Integration for final approval and signature.
- g. **Steps 14a through 14f.** When a "Special Interest" C4ISP is developed for post Milestone B decision reviews, Steps 7a through 7f are repeated. Those additional steps are shown as Steps 14a through 14f in Figure D.2.

D.5 RESPONSIBILITIES

The specific responsibilities of the various groups and individuals involved in the C4ISP process are provided in Section 2.

ATTACHMENT D-1: C4I SUPPORT PLAN DEVELOPMENT FOR MARINE CORPS ACAT I/II

D-1.1. Purpose

This Attachment describes the coordination procedures for C4ISP development between Marine Corps ACAT I, IA, and II programs, and SE&I Division. The Attachment provides policy for the upper ACAT level programs with respect to information on how those programs interface with MARCORSYSCOM interoperability policies and resources.

D-1.2. Background

- a. The vast majority of Marine Corps C4I-related weapons systems and information technology programs are developed at MARCORSYSCOM. Configuration management responsibility rests with the applicable program office, while configuration management of interoperability authority rests with the MARCORSYSCOM Deputy Commander C4I Integration. This ensures the enterprise-level MAGTF systems and technical architectures satisfy the operational requirements in support of Marine Corps Commanders. Milestone Decision Authority (MDA) for ACAT I, IA, and II programs rests with Agencies and officials external to MARCORSYSCOM.
- b. Regardless of ACAT level, all Marine Corps C4ISR programs must inevitably interface with systems under development at MARCORSYSCOM. Practically, this is accomplished through the portrayal of intended interfaces, interconnectivity, and dependencies between systems within a C4ISP. The C4ISP provides a mechanism to identify and resolve C4ISR support shortfalls, and planned solutions at any given phase in a program's acquisition cycle.
- c. As delineated in Section 1 of this document, MSTAR provides the baseline source data for preparing all architectural views produced by MARCORSYSCOM. The MSTAR database contains information on command node functions, operational interfaces, information exchanges and the C4ISR systems used to support information exchange requirements. This source information is then used to develop the specific information exchanges required by a system under development.

D-1.3. Procedures for ACAT Level I, IA, and II C4ISP Development

Figure D-3 provides a diagram of the process used to coordinate the development and review of ACAT level I, IA, and II C4ISPs with MARCORSYSCOM. The major phases, and stages shown in the diagram represent a flow in process as detailed in reference (d), and draft DoN procedures. The diagram corresponds to the procedures outlined below.

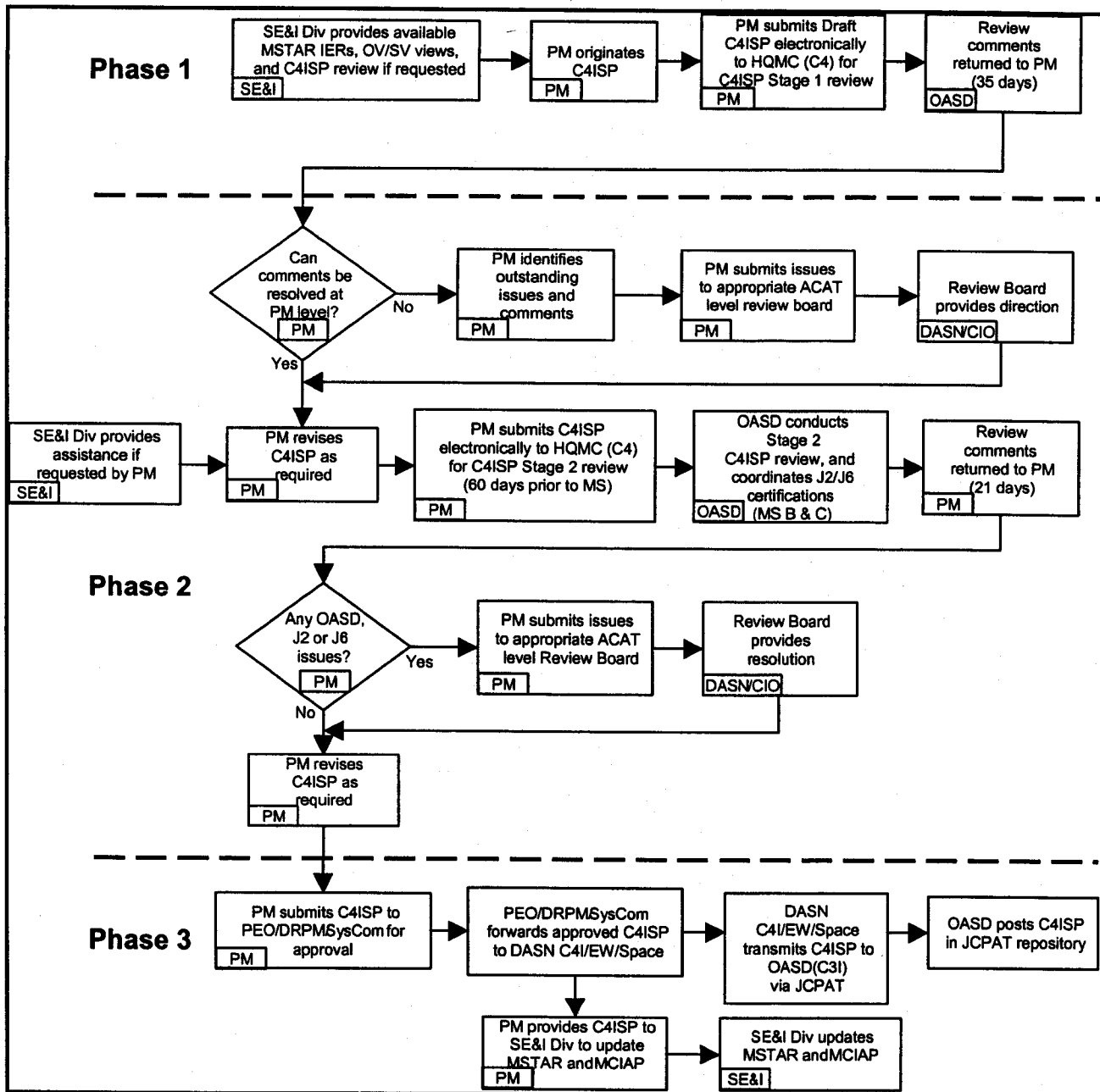


Figure D-3 Process for Developing C4ISPs at the ACAT I, IA, and II Level

- a. Phase 1 begins when a PM develops a draft C4ISP and conducts an internal organizational review of it. Prior to generating the draft C4ISP, PMs are encouraged to contact SE&I Division to receive available MSTAR IERs, OVs and SVs. Additionally, SE&I Division has C4ISP templates that simplify the development of the C4ISP, yet meet DoD requirements for format. Once the PM completes an internal review of the C4ISP, it is submitted electronically into the Joint C4I Program Assessment Tool (JCPAT) for a Stage 1 review as coordinated by the Office of the Assistant Secretary of Defense (OASD) (C3I). The submission of documents into JCPAT is accomplished via

HQMC (C4) for Marine Corps commands. Through the tools offered in JCPAT, OASD (C3I) coordinates a 35-day (maximum) review cycle of the C4ISP.

- b. Phase 2 commences after C4ISP comments are received by the PM from JCPAT. Comments or concerns that cannot be resolved at the PM level are forwarded to an appropriate ACAT level C4ISP review board. (Roles and responsibilities for the C4ISP review board are addressed in the DoN C4ISP User's Guide, currently in draft form.) After getting direction from the C4ISP review board, PMs are encouraged to again contact SE&I Division to receive assistance in rebuilding an adjudicated C4ISP that addresses the issues/ comments received during the Stage 1 JCPAT review. Once the C4ISP is revised, it is resubmitted to OASD (C3I) for a Stage 2 review and to receive Joint Staff (J-2 and J-6) supportability certifications. Program Managers should expect OASD comments to be returned within 21 days after the C4ISP is posted to JCPAT. If OASD or the Joint Staff have issues with the C4ISP, then the C4ISP review board will be used to resolve the open issues. Once the PM and the C4ISP review board are satisfied with resolving the raised issues, then the PM prepares the final C4ISP for the particular milestone or decision point.
- c. Phase 3 begins with the submittal of the final C4ISP to the cognizant and designated approval authority (PEO/DRPM/SysCom) for signature. The approval authority forwards the signed document to DASN C4I/EW/Space who will submit the approved document to OASD (C3I) for posting the document in the JCPAT repository. When the C4ISP is approved, PMs should provide a copy of the document to SE&I Division, which will then be used to update MSTAR and the MCIAP.

D-1.4. Roles and Responsibilities

- a. **DRPMs.** This CMP does not hold directive authority over DRPMs with regards to C4ISP development. However, DRPMs are encouraged to establish and maintain close contact with SE&I Division to receive assistance in developing the architecture views for the C4ISP and validation of interoperability capability with systems being acquired.
- b. **PGDs/PMs.** As with the C4ISPs developed under DRPMs, this CMP does not hold directive authority over PGDs/PMs when the DoN CIO holds approval authority for ACAT II level programs, and the associated C4ISPs. However, PMs are encouraged to establish and maintain close contact with SE&I Division to receive assistance in developing the architecture views for the C4ISP and validation of interoperability capability with systems being acquired. Signed/Approved C4ISPs should be submitted to SE&I Division to ensure MSTAR and MCIAP depictions are properly shown for the system being acquired.
- c. **Director, SE&I Division**
 - (1) Participate with PMs as they develop ACAT I, IA, and II level C4ISPs to provide architecture framework products held in the MSTAR database.

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- (2) Provide technical support and training to DRPMs and PMs, when requested, on completing C4ISPs that meet DoD 5000.2-R standards.**
- (3) Update MSTAR and MCIAP when a Marine Corps ACAT I, IA, or II level C4ISP is submitted to SE&I Division**

ATTACHMENT D-2: CHECKLIST FOR C4ISP APPLICABILITY

National Security System and Automated Information System Determination

DoDI 5000.2 Definitions	Yes	No	N/A	Comment
1. Does the program result in fielding a telecommunications or information system operated by the U.S. Government whose function, operation, or use:				A "Yes" answer to questions 1.a. to 1.e. indicates the system is considered a National Security System (NSS).
Involves intelligence activities.				
Involves cryptologic activities related to national security.				
Involves command and control of military forces.				
Involves equipment that is an integral part of a weapon or weapons system				
Is critical to the direct fulfillment of military or intelligence missions.				
2. Does the program result in acquiring an information technology (IT) system not covered under questions 1.a. to 1.e. above?				A "Yes" indicates the system is considered an IT Automated Information System (AIS).

Continue to the next Table if any "Yes" is indicated.

Programs that are non-NSS/AIS systems do not require C4ISPs. If all of the blocks are marked as "No" OR "N/A", no C4ISP is required for the program. Update CAPS to indicate that no C4ISP is required.

Determining if a C4ISP is Required

	Yes	No	N/A	Comment
1. Does the program result in acquiring a system that connects in any way to the communications and information infrastructure?				A "Yes" indicates the system meets the DoD 5000.2-R (para C6.4.2) requirement to have a C4ISP developed for the program.
2. Does the program upgrade or replace portions of the communications and information infrastructure?				A "Yes" indicates the system meets the DoD 5000.2-R (para C6.4.2) requirement to have a C4ISP developed for the program.
3. Is the program an upgrade to an existing system that connects in any way to the communications and information infrastructure?				A "Yes" indicates the system meets the DoD 5000.2-R (para C6.4.2) requirement to have a C4ISP developed for the program that <u>addresses the upgrade (only)</u> .
4. Does the ORD (or other document) have an Interoperability Key Performance Parameter, or a list of Information Exchange Requirements to external systems?				Per CJCSI 6212.01B (para 5.j.), a "Yes" provides an indicator for a need to have a C4ISP developed for the program.
5. Does the program result in an impact, interface, or connection to any system within the Marine Corps communications and information infrastructure or MAGTF C4ISR Integrated Architecture Picture?				A "Yes" indicates the program requires review (via the C4ISP) for horizontal configuration management issues.

Continue to the next Table if any "Yes" is indicated.

If all the blocks are marked as "No" or "N/A," no C4ISP is required for the program. Update CAPS to indicate that no C4ISP is required.

Determination to Waiver or Delay a C4ISP

	Yes	No	N/A	Comment
1. Is the program documentation based on the old DoD 5000 series directives, and was it in a post-Milestone II status as of 4 January 2001?				A waiver for the C4ISP requirement may be considered. Per provisions in DoDI 5000.2 (para 4.5.1), a C4ISP would not need to be created solely to meet the new DoD 5000 mandates.
2. Has a Milestone C decision already occurred for the program without a C4ISP having been created?				The SE&I Assessment Section will consider the necessity to represent the interfaces or connectivity with other C4ISR systems. If no documentation is needed, a waiver letter should be submitted. When there is a need for documenting the interfaces or connectivity, the Program Manager/Project Officer should be informed of the need to complete a C4ISP (or portions of it). If a program review is in the immediate future, a request for a delay in completing a C4ISP could be considered.
3. Is there insufficient time to complete a C4ISP prior to an upcoming program review or Milestone Decision?				Request a delay for completing the C4ISP. DoD 5000.2-R (para AP5.3.5) notes that an incomplete C4ISP should not be in itself a reason to delay a program review.



Draft appropriate waiver/delay letter from the PGD/PM to the Deputy Commander C4I/I for consideration.

Development of a C4ISP should begin with sufficient time to be completed for scheduled program reviews.

ATTACHMENT D-3: C4I SUPPORT PLAN ESTABLISHMENT REVIEW PROCESS

1. C4ISPs are used within the command to facilitate integration and interoperability among the information systems within all program directorates and programs reporting directly to the Commanding General. C4ISPs are required at program initiation, Milestones B and C, and all subsequent major modifications to the system. The Deputy Commander C4I Integration (DEP CDR C4I/I) is the MARCORSYSCOM approval authority for all AAPs and ACAT III and IV C4ISPs. This Attachment provides additional information on the formal C4ISP Establishment Review process used to present C4ISPs to the DEP CDR C4I/I for approval and signature.
2. Program Managers and SE&I Division will work together to make a determination on whether a C4ISP will be required for each program listed in the Command Automated Program/Information System (CAPS). When a program is identified as needing a C4ISP, particular attention should be given to noting the next milestone date for the program. SE&I Division will update CAPS with the C4ISP determination decision, and validate the information on a quarterly basis. When a C4ISP is required, adequate preparation time should be planned to allow for the C4ISP Establishment Review to be completed at least 30 days prior to the next milestone event. Tab 1 to this Attachment provides the C4ISP Establishment Review Checklist, and Tab 2 provides a briefing template for preparing for the C4ISP Establishment Review.
3. The Assessments Section in SE&I Division will provide assistance to PMs preparing for the C4ISP Establishment Review briefings. Scheduling the briefing will be the responsibility of the PM.

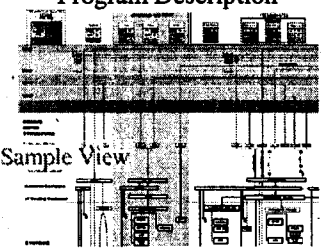
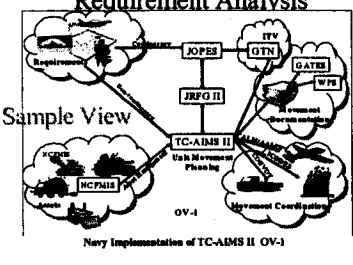
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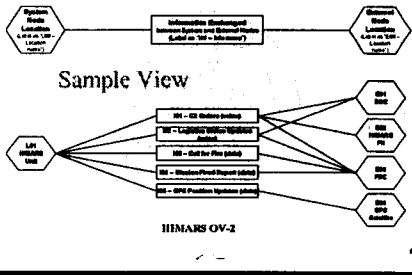
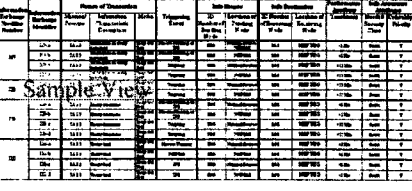
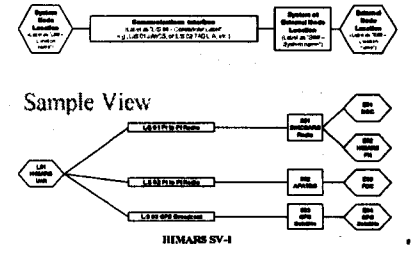
TAB 1 to ATTACHMENT D-3: C4ISP Establishment Review Checklist

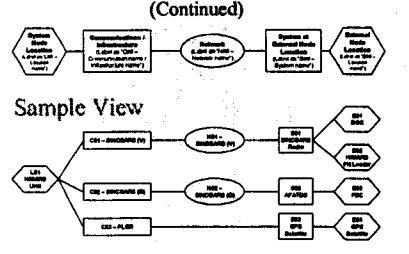
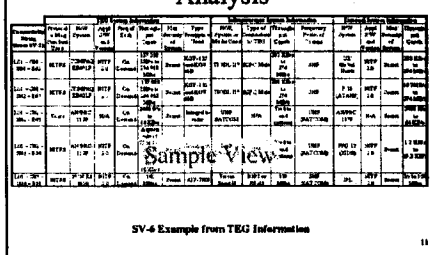
- ☐ **Program Description:** Provides an overall synopsis of the system being acquired. The graphic used for the slide can be taken from the MCIAP ("Big Picture") or from other programmatic sources.
- ☐ **High Level Mission and Requirements Analysis:** The High-level Operational Concept Graphic (OV-1) provides a pictorial of the missions, high-level operations, organizations, and geographical distribution of assets. When applicable, the OV-1 should address organizational, and tactical deployment of the system.
- ☐ **Functional Flow Analysis:** Depicted by the Operational Node Connectivity Description (OV-2) and Operation Information Exchange Matrix (OV-3) slides from the C4ISP. Both convey the major (or significant) information exchanges that occur at or through the node where the system being acquired is located. When applicable, the OV-2 should address organizational, and tactical deployment of the system.
- ☐ **Preliminary Systems Allocation:** Depiction of the systems that are used to fulfill the connectivity to the system being acquired. Two views from the C4ISP provide the information needed for the brief, the System Interface Description (SV-1), and the Systems Communications Description (SV-2).
- ☐ **Systems Integration and Interface Analysis:** Looks in greater detail at the specific system interfaces of the system being acquired. The System Information Exchange Matrix (SV-6) from the C4ISP describes (in tabular format) information exchanges between systems. The focus is on how the data exchanges are (or will be) implemented, in system-specific details covering such characteristics as specific protocols, and data or media formats
- ☐ **Specifications:** Should be based on the information provided in the Technical Architecture Profile (TV-1) from the C4ISP. Description of the use of JTA standards should be addressed. Description of compliance with MARCORSYSCOM policies on the use of common systems should be addressed.
- ☐ **C4ISR and Manpower Support Required for Training:** Details specific C4ISR support systems or items needed to train on the system being acquired, and if MCTSSA's SIE will be used in any way to accomplish this. Also, describe the plan for representing the system in SIE.

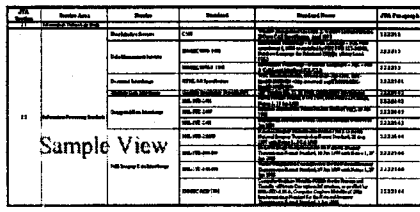
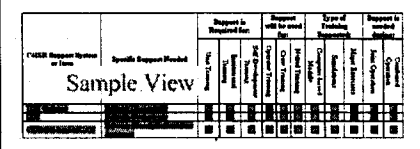
- ☐ C4ISR Support for Testing: Addresses how the C4ISP was used for input to the TEMP. Be prepared to address if any connections shown in the C4ISP views were NOT tested (or are not scheduled to be tested). Consider addressing how the SIE (at MCTSSA) was (or will be) used for testing the connectivity to the system being acquired.
- ☐ C4I Shortfalls: Based on the information provided in the table of the last appendix of the C4ISP, identify C4I shortfalls that the PM cannot influence or change. The table lists specific C4ISR support shortcomings that might affect the development, operation, testing, or training of the system being acquired
- ☐ Interoperability Risk Reduction: An assessment on the ongoing effort to ensure interoperability with the systems in the architecture. Three aspects are addressed: An assessment on achieving interoperability, a concurrence on the interface (with the PM of the system), and the system engineering effort being taken to prove the interoperability

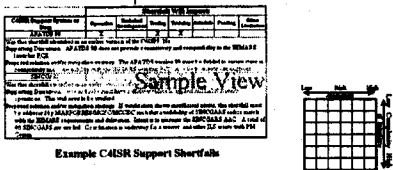
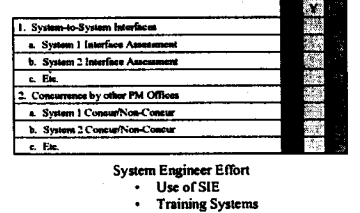
TAB 2 to ATTACHMENT D-3: C4ISP Establishment Review Template

Slide 1	<p>Program XXX C4ISP Establishment Review</p> <p>Date _____</p> <p>Program Manager: _____</p>	
Slide 2	<p>Agenda</p> <ul style="list-style-type: none"> • Overview • Graphics • Shortfalls • Summary 	<p>The format for the C4ISP Establishment Review was built on the general outline provided for a System Requirements Review (SRR) as detailed in MIL-STD 1521B. The information provided in the brief is based on details from the C4ISP.</p>
Slide 3	<p>Program Description</p>  <p>Sample View</p>	<p>A Program Description provides an overall synopsis of the system being acquired. The graphic used for the slide should be taken from the MCIAP ("Big Picture").</p> <p>In the brief: Indicate where the system being acquired fits into the MCIAP.</p>
Slide 4	<p>High Level Mission and Requirement Analysis</p>  <p>Sample View</p>	<p>The High-level Operational Concept Graphic (OV-1) provides a pictorial of the missions, high-level operations, organizations, and geographical distribution of assets. Its main utility is as a facilitator of human communication, and it is intended for presentation to high-level decision makers. The lines connecting the icons can be used to show simple connectivity, or can be annotated to show what information is exchanged.</p> <p>In the brief: Address where the system being acquired fits into a bigger architecture picture. When possible, reference the requirements document that is driving the acquisition of the system.</p>

<p>Slide 5</p>	<p>Functional Flow Analysis</p>  <p>HIMARS OV-2</p>	<p>The Functional Flow Analysis is best depicted by the Operational Node Connectivity Description (OV-2) and Operation Information Exchange Matrix (OV-3) slides from the C4ISP. The OV-2 provides a pictorial of the information exchanges shown in the OV-3. If needed use two slides to present the OV-2, and OV-3.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Talk to the major (or significant) information exchanges that occur at or through the node where the system being acquired is located. (This isn't the time to talk to the "systems" being acquired; emphasize the business or operational aspect of the information exchanges.) Identify which information exchanges are ORD based. Identify which information exchanges fulfill the interoperability KPP. Identify which information exchanges are not ORD based.
<p>Slide 6</p>	<p>Functional Flow Analysis (Continued)</p>  <p>OV-3 Example from TEC Information</p>	<p>The Functional Flow Analysis is best depicted by the Operational Node Connectivity Description (OV-2) and Operation Information Exchange Matrix (OV-3) slides from the C4ISP. The OV-2 provides a pictorial of the information exchanges shown in the OV-3. If needed use two slides to present the OV-2 and OV-3.</p> <p>The OV-3 can potentially be multiple pages in length. Do not try to insert the entire OV-3 into the brief. Provide a synopsis of the matrix, and pull some sample lines from the matrix into the brief.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Talk in general terms to what the OV-3 provided for the C4ISP. Identify which information exchanges are ORD based. Identify which information exchanges fulfill the interoperability KPP. Identify which information exchanges are not ORD based.
<p>Slide 7</p>	<p>Preliminary Systems Allocation</p>  <p>HIMARS SV-1</p>	<p>The Preliminary Systems Allocation begins to paint a picture of what systems are used to fulfill the connectivity to the system being acquired. Two views from the C4ISP provide the information needed for the brief, the System Interface Description (SV-1), and the Systems Communications Description (SV-2). For briefs prepared for the C4ISPs created for MS-B, and MS-C decisions, the SV-1 could be skipped in lieu of the same (but more detailed information) being provided in the SV-2.</p> <p>The SV-1 depicts the systems that accomplish information exchanges shown in the OV-2 graphic.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Emphasize what systems are connected to the system being acquired. Be prepared to address needed changes in AAOs for the systems that connect to the system being acquired, and whether those program offices are aware of the changes. Be prepared to talk to whether the system being acquired is using, or planning to use the Marine Corps Common Hardware Suite. Be prepared to identify the connectivity based on the ORD based, non-ORD based, or fulfill the interoperability KPP.

<p>Slide 8</p>	<p>Preliminary Systems Allocation (Continued)</p>  <p>Sample View</p> <p>HIMARS SV-2</p>	<p>In the brief: (Preliminary Systems Allocation continued)</p> <p>Emphasize what systems are connected to the system being acquired.</p> <p>Be prepared to address needed changes in AAOs for the systems that connect to the system being acquired, and whether those program offices are aware of the changes.</p> <p>Be prepared to talk to whether the system being acquired is using, or planning to use the Marine Corps Common Hardware Suite.</p> <p>Be prepared to identify the connectivity based on the ORD based, non-ORD based, or fulfill the interoperability KPP.</p>
<p>Slide 9</p>	<p>Connected Systems Selection</p> <ul style="list-style-type: none"> • Trojan Spirit II • AN/PRC-117F • DTC/TTC-42 • SIPRNET <p>Sample Data</p>	<p>The Connected Systems Selection should address the cost and operational advantages for selecting the systems that provide connectivity to the system being acquired.</p> <p>In the brief:</p> <p>Emphasize the advantages/reasoning for selecting the systems that are connected to the system being acquired.</p> <p>Be prepared to address what systems were not chosen, and the reasoning behind that decision.</p> <p>If necessary, note the selection of the systems as related to the requirements provided in the ORD.</p>
<p>Slide 10</p>	<p>Systems Integration and Interface Analysis</p>  <p>Sample View</p> <p>SV-6 Example from TBG Information</p>	<p>The Systems Integration and Interface Analysis begins to look in greater detail at the specific system interfaces to the system being acquired. The System Information Exchange Matrix (SV-6) from the C4ISP provides the details needed for this portion of the C4ISP Establishment Review. The SV-6 is normally created for insertion into the C4ISP created for MS-B/C decisions. Therefore this slide can be excluded from C4ISP Establishment Reviews prepared for C4ISPs associated with pre-MS-B decisions.</p> <p>The System Information Exchange Matrix describes (in tabular format) information exchanges between systems. The focus is on how the data exchanges are (or will be) implemented, in system-specific details covering such characteristics as specific protocols, and data or media formats. The SV-6 can potentially be multiple pages in length. Do not try to insert the entire SV-6 into the brief. Provide a synopsis of the matrix, and pull some potential problem or issue areas from the matrix and insert them into the brief. Specifically, if an interoperability KPP is directed by the requirement documents (ORD), show the connectivity string of the equipment implementing the interoperability KPP.</p> <p>In the brief be prepared to address the following issues:</p> <p>Identify the connectivity components based on requirements in the ORD, non-ORD sources, or those that fulfill the interoperability KPP.</p> <p>Are the project officers for the communication systems noted in the matrix aware of the any new interfaces, and message exchanges that will be passed through/to their systems?</p>

<p>Slide 11</p>	<p style="text-align: center;">Specifications</p>  <p style="text-align: center;">Sample View</p> <p style="text-align: center;">Sample TV-1 from the TEG C4ISP</p>	<p>The Specifications addressed in the C4ISP Establishment Review should be based on the information provided in the Technical Architecture Profile (TV-1) from the C4ISP. The TV-1 is normally created for insertion into the C4ISP created for MS-B/C decisions. Therefore this slide can be excluded from C4ISP Establishment Reviews prepared for C4ISPs associated with pre-MS-B decisions.</p> <p>The TV-1 lists the Joint Technical Architecture (JTA) Standards (or other source of standards) needed to engineer in interoperability with the systems shown in the SV-1 and SV-2 diagrams. As is the case of the SV-6, the TV-1 can potentially be multiple pages in length. Do not try to insert the entire TV-1 into the brief. Provide a synopsis of the matrix, and pull some potential problem or issue areas from the matrix and insert them into the brief. Of particular interest to the Deputy Commander will be references to the mandated common systems, message standards, and data structure shown in the TV-1.</p> <p>In the brief be prepared to address the following issues:</p> <ul style="list-style-type: none"> How/Where are common systems being used in the architecture as noted in the TV-1? How is compliance with JTA standards going to be (or was) validated? Where were non-JTA standards used, and why? How were the JTA standards selected?
<p>Slide 12</p>	<p style="text-align: center;">Special C4ISR and Manpower Support Required for Training</p>  <p style="text-align: center;">Sample View</p> <p style="text-align: center;">Sample Table from the TDMS C4ISP</p>	<p>The Special C4ISR and Manpower Support Required for Training slide details specific C4ISR support systems or items needed to train on the system being acquired. The information for this slide is available in a table from the C4ISP prepared for a MS-C decision. This slide can be excluded from C4ISP Establishment Reviews prepared for C4ISPs associated with pre-MS-C decisions.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Be prepared to address if training on the system will be accomplished using the SIE at MCTSSA. If the SIE is used, has provisioning been planned to support it?
<p>Slide 13</p>	<p style="text-align: center;">C4ISR Support for Testing</p>	<p>The C4ISR Support for Testing addresses how the C4ISP was used for input to the TEMP. The C4ISR support to testing is not specifically addressed in the C4ISP, but this slide offers the PM an opportunity to explain how the interfaces identified in the C4ISP were tested. There is no specific format offered for this slide.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Be prepared to address if any connections shown in the C4ISP views were NOT tested, or are not scheduled to be tested. Consider addressing how the SIE (at MCTSSA) was (or will be) used for testing the connectivity to the system being acquired.

<p>Slide 14</p>	<p>C4I Shortfalls</p>  <p>Example C4ISR Support Shortfalls</p>	<p>The C4I Shortfalls addressed in the C4ISP Establishment Review should be based on the information provided in the table of the last appendix of the C4ISP. Titled the "C4ISR Support Shortfalls," the table succinctly lists specific C4ISR support shortcomings that might affect the development, operation, testing, or training of the system being acquired.</p> <p>The listed systems or items addressed during this portion of the brief should correspond to the systems identified in the SV-2 graphic and/or the list of C4ISR training needs found in other parts of the C4ISP. The specifics of the shortfall should be briefly explained, as well as proposed solutions and/or mitigation strategies. Use a risk assessment matrix (shown above) to provide a relative assessment of the risks associated with the use and interface to common products.</p> <p>In the brief be prepared to address the following:</p> <ul style="list-style-type: none"> A complete explanation of each of the issues The anticipated plan of action to mitigate the issues Actions taken to date on resolving the issues.
<p>Slide 15</p>	<p>Interoperability Risk Reduction</p>  <p>System Engineer Effort</p> <ul style="list-style-type: none"> Use of SIE Training Systems 	<p>The Interoperability Risk Reduction slide indicates an assessment of the ongoing effort to ensure interoperability with the systems in the architecture. Three aspects are addressed: An assessment on achieving interoperability, a concurrence on the interface (with the PM of the system), and the system engineering effort being taken to prove the interoperability.</p> <p>The system-to-system interface assessment, and the concurrence by other PM offices should be indicated by a Red, Yellow, or Green highlighted stoplight.</p> <p>In the brief:</p> <ul style="list-style-type: none"> Be prepared to address how future (or completed) testing supports the information presented on this slide.
<p>Slide 16</p>	<p>Summary</p> <ul style="list-style-type: none"> 	<p>The Summary page of the brief offers an opportunity to the PM to address other issues that don't fit into the format of the C4ISP Establishment Review. Re-emphasis of issues addressed earlier in the brief would be acceptable for this slide as well. The format for this slide is free text, with bullet leaders.</p>

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ATTACHMENT D-4: PROCEDURES FOR THE REVIEW OF JOINTLY DEVELOPED C4I SUPPORT PLANS

1. Chapter 7 of reference (d) directs that Joint programs have only one C4ISP but offers no procedure for reviewing or validating the document while being developed, unless it is an ACAT I or IA program. For ACAT I or IA programs, reference (d) offers review procedures for C4ISPs submitted to the Joint Chiefs of Staff (J-2/J-6) and Office of the Assistant Secretary of Defense (C3I), to include the release of those documents to HQMC for additional staffing. Current practice for lower ACAT programs appears to lean towards developing Joint C4ISPs through an IPT-like process, with the lead DoD Component having the final say on the appearance and specificity of the architecture depictions in the C4ISP. This process tends to broad-brush the interconnectivity and interoperability of the systems being acquired, and leaves Marine Corps systems poorly represented in the architecture depictions and subsequent program planning.
2. In order to mitigate the potential shortcomings of Joint C4ISPs, the following procedures will be followed whenever possible:
 - a. When a draft Joint C4ISP is sent to MARCORSYSCOM for review, cognizant PMs receiving the C4ISP will forward a copy of it to SE&I Division for concurrent review. If during the SE&I or PM support team review, a determination is made regarding a shortcoming to the Marine Corps depictions in the C4ISP, appropriate comments by the PM will be submitted to the Joint Program Office. The C4ISP templates available on the SE&I Division Knowledge Center (on the MARCORSYSCOM Intranet TIGER web page) offer PMs an ideal tool to communicate correct Marine Corps architecture depictions.
 - b. Where there is no attempt by the Joint Program Office to provide the needed Marine Corps architecture depictions in the Joint C4ISP, PMs are expected to independently develop C4ISR Architecture Framework System View (SV) and Technical View (TV) depictions commensurate with their program, and provide them to SE&I Division. The SV and TV depictions will be used by SE&I Division to maintain a correct system architecture of the systems fielded by MARCORSYSCOM. At System Security Authorization Agreement (SSAA), or Authority to Operate (ATO) decision reviews, PMs will be expected to provide the SV-1, SV-2, SV-6, and TV-1 architecture depictions that are specific to Marine Corps requirements. Preparing the architecture views in advance of the SSAA and ATO decision reviews will streamline the approval process.

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APPENDIX E: ENTERPRISE INTEGRATED PRODUCT ASSESSMENTS

To be issued.